DSR-PD100/PD100P

RMT-811

SERVICE MANUAL

US Model
Canadian Model
DSR-PD100
AEP Model
DSR-PD100P

Self Diagnosis Supported model

DVCAM™

Cassette Memory

InfoLITHIUM

MEMORY STICK

Ver 1.5 2003. 05

C MECHANISM

Photo: DSR-PD100

NTSC model: DSR-PD100
PAL model: DSR-PD100P

SPECIFICATIONS

Digital Camcorder

System

Video recording system
Two rotary heads, Helical scanning system
Audio recording system
Rotary heads, PCM system
Quantization: Fs 32kHz (12bits, stereo 1, stereo 2), Fs 48kHz (16bits, stereo)
Video signal
DSR-PD100: NTSC color, EIA standards
DSR-PD100P: PAL color, CCIR standards
Usable cassette
Mini DVCAM cassette with logo printed
Tape speed
DSR-PD100: Approx. 28.218 mm/s
DSR-PD100P: Approx. 28.246 mm/s
Recording/playback time
40 minutes (PDVM-40ME)
Fast forward/rewind time
Approx. 2 min. 30 s (PDVM-40ME)
Image device
3CCD (Charge Coupled Device 1/4")
Viewfinder
Electric viewfinder (color)
Lens
Combined power zoom lens, 48x (Digital), 12x (Optical)
Focal distance
f =4.3 to 51.6 mm ($^{3}/_{16}$ to 2 $^{1}/_{8}$ in.)
(41.3 to 496 mm (1 $^{11}/_{16}$ to 19 $^{3}/_{8}$ in.) when converted into a 35 mm still camera)
F 1.6 – 2.8
TTL autofocus system inner focus wide macro system
Color temperature
Auto, One push, Indoor (3200K), Outdoor (5800K)
Minimum illumination
4 lux at F 1.6
Illumination range
4 to 100,000 lux
Recommended illumination
More than 100 lux

LCD screen

Picture
3.5 inches measured diagonally
72.4 x 50.4 mm (2 $^{7}/_{8}$ x 2 in.)
On-screen display
TN LCD/TFT active matrix method
Total dot number
184,580 (839 x 220)

Input and output connectors

S VIDEO input/output
Input/output auto switch
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
Chrominance signal: 0.286 Vp-p (DSR-PD100), 0.3 Vp-p (DSR-PD100P), 75 ohms, unbalanced
Audio/Video input/output
Input/output auto switch
AV MINI JACK, 1 Vp-p, 75 ohms, unbalanced, sync negative
327 mV, (at output impedance more than 47 kilohms)
Output impedance with less than 2.2 kilohms/Stereo minijack (ø 3.5mm)
Input impedance more than 47 kilohms
DV input/output
4-pin special connector
Headphones
Stereo minijack (ø 3.5 mm)
MIC input
Stereo minijack (ø 3.5mm):0.388mV, DC2.5V
Input impedance 6.8 kilohms
LANC jack
Stereo miniminijack (ø 2.5 mm)

General

Power requirements
7.2 V (battery insertion input)
8.4 V (DC IN jack)
Average power consumption
4.3 W during camera recording using viewfinder
5.3 W during camera recording using LCD screen
Operating temperature
0°C to 40°C (32°F to 104°F)
Storage temperature
–20°C to 60°C (–4°F to 140°F)
Dimensions
Approx. 93 x 112 x 193.5 mm (w/h/d) (3 $^{3}/_{4}$ x 4 $^{1}/_{2}$ x 7 $^{5}/_{8}$ in.)
Mass
Approx. 900 g (1 lb 16 oz) excluding the battery pack and the cassette.
Approx. 985 g (2 lb 3 oz) including the XLR adaptor
Approx. 1.28 kg (2 lb 13 oz) including the XLR adaptor, wide conversion lens and wide conversion lens hood.
Microphone
Electret condenser microphone, Stereo type
Speaker
Dynamic-speaker
Supplied accessories
See page 2.

AC power adaptor

Power requirements
100 to 240 V AC, 50/60 Hz
Power consumption
23 W
Output voltage
DC OUT: 8.4 V, 1.5 A in operating mode
Operating temperature
0°C to 40°C (32°F to 104°F)
Storage temperature
–20°C to 60°C (–4°F to 140°F)
Dimensions (Approx.)
125 x 39 x 62 mm (w/h/d) (5 x $^{19}/_{16}$ x 2 $^{1}/_{2}$ in.)
Mass (Approx.)
280 g (9.8 oz) excluding power code

— Continued on next page —

DVCAM™ DIGITAL CAMCORDER

MICROFILM

SONY®

PC card adaptor

Host interface
PC card ATA/True IDE standards
Operating voltage
3.3 V/5V
Operating environment
0°C to 60°C (32°F to 140°F) (non-condensing)
Dimensions (Approx.)
85 x 54 x 5 mm (w/h/d) (3 3/8 x 2 1/4 x 7/32 in.)
Mass (Approx.)
30 g (1 oz)

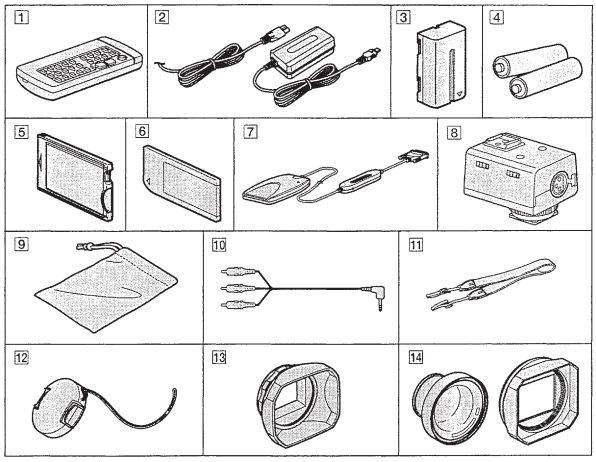
Memory stick

Memory type
Flash memory
Voltage
2.7 to 3.6 V
Power consumption
About 4.5 mA
About 130 mA at stndby
Clock
Maximum 20 MHz
Operating environment
0°C to 60°C (32°F to 140°F) (non-condensing)
Dimensions (Approx.)
21.5 x 50 x 2.8 mm (w/h/d) (7/8 x 2 x 1/8 in.)
Mass (Approx.)
4 g (0.2 oz)

Design and specifications are subject to change without notice.

• SUPPLIED ACCESSORIES

Check that the following accessories are supplied with your camcorder.



1 **Wireless Remote Commander** (1)

2 **AC-L10A AC power adaptor** (1), **Power cord (mains lead)** (1)
The shape of the plug varies from region to region.

3 **NP-F330 battery pack** (1)

4 **Size AA (R6) battery for Remote Commander** (2)

5 **PC card adaptor** (1), **PC card adaptor case** (1)

6 **Memory stick** (1), **memory stick case** (1), **label** (1)

7 **PC card/parallel port adaptor** (1), **Power cord** (1), **Adaptor connector** (1), **CD-ROM** (1)

8 **XLR adaptor** (1)

9 **Pouch for XLR adaptor** (1)
When not using the XLR adaptor, put the adaptor into the pouch.

10 **A/V connecting cable** (1)

11 **Shoulder strap** (1)

12 **Lens cap** (1)

13 **Lens hood** (1)

14 **Wide conversion lens** (1), **wide conversion lens hood** (1)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

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* The optical axis frame and color reproduction frame is shown on page 314 and 315.

1. POWER SUPPLY DURING REPAIRS

In this unit, about 10 seconds after power is supplied (8.4V) to the battery terminal using the service power cord (J-6082-223-A), the power is shut off so that the unit cannot operate.
This following two methods are available to prevent this. Take note of which to use during repairs.

Method 1.
Connect the servicing remote commander RM-95 (J-6082-053-B) to the LANC jack, and set the remote commander switch to the "ADJ" side.

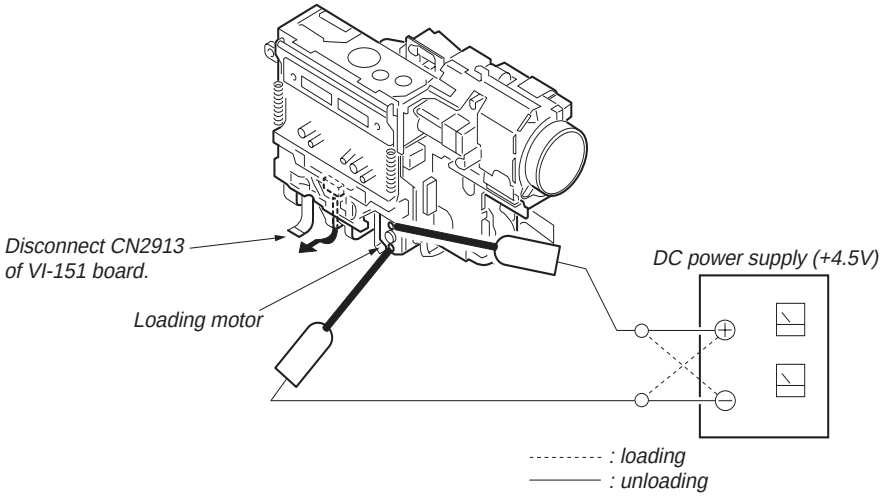
Method 2.
Press the battery switch of the battery terminal using adhesive tape, etc.

Method 3.
Use the AC power adaptor.

2. HOW TO TAKE A CASSETTE OUT WHEN THE MAIN POWER CANNOT BE TURNED ON

Note: To take a cassette out forcibly as follows when the main power cannot be turned on, remove the cassette lid, cabinet (L) and cabinet (R). Apply +4.5 V power from an external power supply to the loading motor, as shown below. Refer to sections 2-1 and 2-2 for the procedure to remove the cabinet (L) assembly.

Procedure:
1) Disconnect the CN2913 of VI-151 board.
2) Apply +4.5 V directly to the loading motor as shown to drive the loading motor that ejects a cassette.



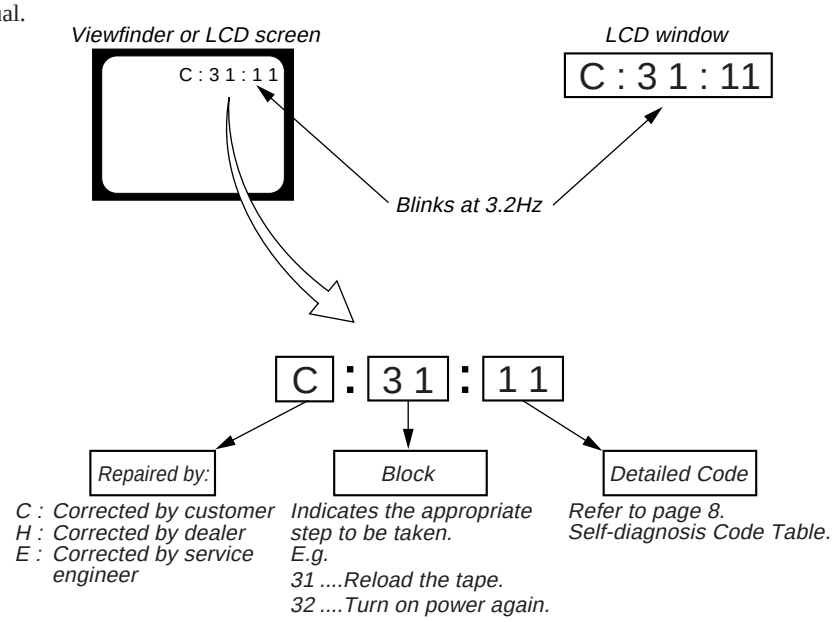
SELF-DIAGNOSIS FUNCTION

1. SELF-DIAGNOSIS FUNCTION

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder, LCD screen or LCD window what to do. This function consists of two display; self-diagnosis display and service mode display.
Details of the self-diagnosis functions are provided in the Instruction manual.

2. SELF-DIAGNOSIS DISPLAY

When problems occur while the unit is operating, the counter of the viewfinder, LCD screen or LCD window consists of an alphabet and 4-digit numbers, which blinks at 3.2 Hz. This 5-character display indicates the "repaired by:", "block" in which the problem occurred, and "detailed code" of the problem.

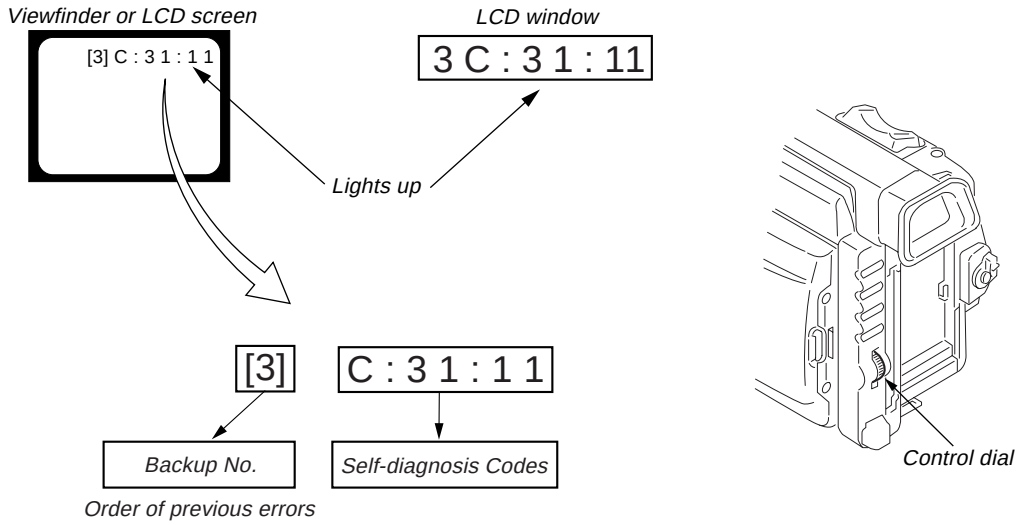

Viewfinder or LCD screen
C : 3 1 : 1 1
LCD window
C : 3 1 : 11
Blinks at 3.2Hz
C : 31 : 11
Repaired by:
Block
Detailed Code
C : Corrected by customer
H : Corrected by dealer
E : Corrected by service engineer
Indicates the appropriate step to be taken.
E.g.
31 ....Reload the tape.
32 ....Turn on power again.
Refer to page 8.
Self-diagnosis Code Table.

3. SERVICE MODE DISPLAY

The service mode display shows up to six self-diagnosis codes shown in the past.

3-1. Display Method

While pressing the "STOP" key, set the switch from OFF to "VTR or PLAYER", and continue pressing the "STOP" key for 5 seconds continuously. The service mode will be displayed, and the counter will show the backup No. and the 5-character self-diagnosis codes.



3-2. Switching of Backup No.

By rotating the control dial, past self-diagnosis codes will be shown in order. The backup No. in the [] indicates the order in which the problem occurred. (If the number of problems which occurred is less than 6, only the number of problems which occurred will be shown.)

[1] : Occurred first time [4] : Occurred fourth time
[2] : Occurred second time [5] : Occurred fifth time
[3] : Occurred third time [6] : Occurred the last time

3-3. End of Display

Turning OFF the power supply will end the service mode display.

Note: The "self-diagnosis display" data will be backed up by the coin-type lithium battery of CK-80 board BT7200. When this coin-type lithium battery is removed, the "self-diagnosis display" data will be lost by initialization.

4. SELF-DIAGNOSIS CODE TABLE

Self-diagnosis Code				Symptom/State	Correction
Repaired by:	Block Function		Detailed Code		
C	2	1	0 0	Condensation.	Remove the cassette, and insert it again after one hour.
C	2	2	0 0	Video head is dirty.	Clean with the optional cleaning cassette.
C	2	3	0 0	Non-standard battery is used.	Use the info LITHIUM battery.
C	3	1	1 0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	1 1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	2 0	T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2 1	Winding S reel fault when counting the rest of tape.	Load the tape again, and perform operations from the beginning.
C	3	1	2 2	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2 3	S reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2 4	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	3 0	FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3	1	4 0	FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3	1	4 2	FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3	1	1 0	LOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	1	1 1	UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2 0	T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2 1	Winding S reel fault when counting the rest of tape.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2 2	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2 3	S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2 4	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3 0	FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4 0	FG fault when starting drum	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4 2	FG fault during normal drum operations	Remove the battery or power cable, connect, and perform operations from the beginning.
E	6	1	0 0	Difficult to adjust focus (Cannot initialize focus.)	Inspect the lens block focus reset sensor (Pin ⑩ of CN500 of VC-208 board) when focusing is performed when the control dial is rotated in the focus manual mode, and the focus motor drive circuit (IC500 of VC-208 board) when the focusing is not performed.
E	6	1	1 0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the lens block zoom reset sensor (Pin ⑫ of CN500 of VC-208 board) when zooming is performed when the zoom lens is operated and the zoom motor drive circuit (IC500 of VC-208 board) when zooming is not performed.
E	6	2	0 0	Steadyshot function does not work well. (With pitch angular velocity sensor output stopped.)	Inspect pitch angular velocity sensor (SE451 of SE-75 board) peripheral circuits.
E	6	2	0 1	Steadyshot function does not work well. (With yaw angular velocity sensor output stopped.)	Inspect yaw angular velocity sensor (SE450 of SE-75 board) peripheral circuits.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Before you begin

Using this manual

The instructions in this manual are for the two models listed below. Before you start reading this manual and operating the unit, check your model number by looking at the bottom of your camcorder. The DSR-PD100 is the model used for illustration purposes. Otherwise, the model name is indicated in the illustrations. Any differences in operation are clearly indicated in the text, for example, "DSR-PD100 only."

As you read through this manual, buttons and settings on the camcorder are shown in capital letters.
e.g., Set the POWER switch to CAMERA.

Types of differences

Model number	Color system	Drop frame system
DSR-PD100	NTSC	Drop frame or non-drop frame
DSR-PD100P	PAL	—

Note on Cassette Memory

This camcorder is based on the DVCAM format. You can only use mini DVCAM cassettes with this camcorder. We recommend you to use a tape with cassette memory CM.

The functions which depend on whether the tape has the cassette memory or not are:
- End Search (p. 22, 25)
- Date Search (p. 73)
- Photo Search (p. 76).

The functions you can operate only with the cassette memory are:
- Title Search (p. 75)
- Superimposing a title (p. 63)
- Making a custom title (p. 66)
- Labeling a cassette (p. 68).

For details, see page 116.

Note on TV color systems

TV color systems differ from country to country.
To view your recordings on a TV, you need an NTSC system-based TV (DSR-PD100).
To view your recordings on a TV, you need a PAL system-based TV (DSR-PD100P).

Precaution on copyright

Television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

Contents of the recording cannot be compensated if recording or playback is not made due to a malfunction of the camcorder, video tape, etc.

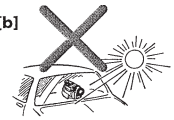
Using this manual

Precautions on camcorder care

- **The LCD screen and/or the color viewfinder are manufactured using high-precision technology. However, there may be some tiny black points and/or bright points (red, blue or green in color) that constantly appear on the LCD screen and/or in the viewfinder. These points are normal in the manufacturing process and do not affect the recorded picture in any way. Over 99.99% are operational for effective use.**
- Do not let the camcorder get wet. Keep the camcorder away from rain and sea water. Letting the camcorder get wet may cause the unit to malfunction, and sometimes this malfunction cannot be repaired **[a]**.
- Never leave the camcorder exposed to tenperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight **[b]**.

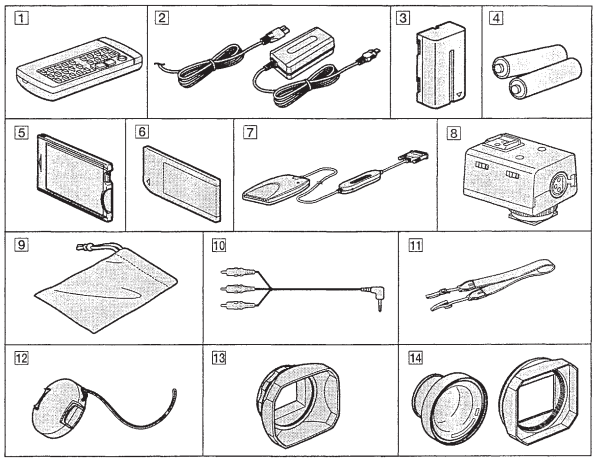
[a]

[b]



Checking supplied accessories

Check that the following accessories are supplied with your camcorder.



1 **Wireless Remote Commander** (1) (p. 140)

2 **AC-L10A AC power adaptor** (1), **Power cord (mains lead)** (1) (p. 9, 27)
The shape of the plug varies from region to region.

3 **NP-F330 battery pack** (1) (p. 8)

4 **Size AA (R6) battery for Remote Commander** (2) (p. 140)

5 **PC card adaptor** (1), **PC card adaptor case** (1) (p. 90)

6 **Memory stick** (1), **memory stick case** (1), **label** (1) (p. 90)

7 **PC card/parallel port adaptor** (1), **Power cord** (1), **Adaptor connector** (1), **CD-ROM** (1) (p. 91)

8 **XLR adaptor** (1) (p. 61)

9 **Pouch for XLR adaptor** (1)
When not using the XLR adaptor, put the adaptor into the pouch.

10 **A/V connecting cable** (1) (p. 70, 80)

11 **Shoulder strap** (1) (p. 141)

12 **Lens cap** (1) (p. 13)

13 **Lens hood** (1) (p. 15)

14 **Wide conversion lens** (1), **wide conversion lens hood** (1) (p. 62)

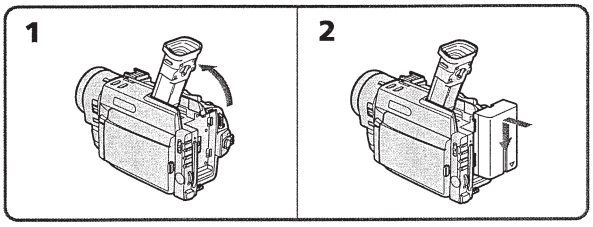
Getting started

Installing and charging the battery pack

Before using your camcorder, you first need to install and charge the battery pack. To charge the battery pack, use the supplied AC power adaptor.
This camcorder operates only with the "InfoLITHIUM" battery pack.
"InfoLITHIUM" is a trademark of Sony Corporation.

Installing the battery pack

(1) Lift up the viewfinder.
(2) Insert the battery pack in the direction of the ▼ mark on the battery pack. Slide the battery pack down until it is locked.
Attach the battery pack to the camcorder securely.



Note on installing the NP-F730/F730H/F750/F930/F950 battery pack
Use the camcorder while stretching out the viewfinder.

Note on the battery pack
Do not carry the camcorder by grasping the battery pack.

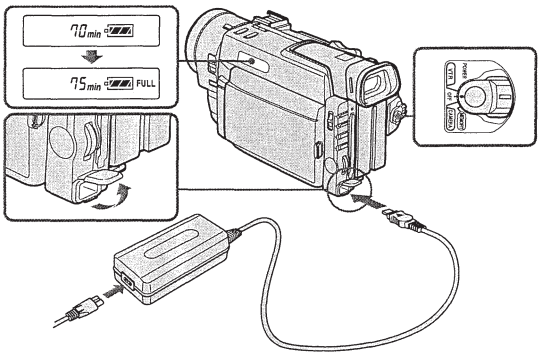
Charging the battery pack

Charge the battery pack on a flat surface without vibration. The battery pack is charged a little in the factory.

(1) Open the DC IN jack cover and connect the supplied AC power adaptor to the DC IN jack with the plug's ▲ mark up.
(2) Connect the power cord to the AC power adaptor.
(3) Connect the power cord to a wall outlet.
(4) Set the POWER switch to OFF. Remaining battery time is indicated by the minutes on the display window. Charging begins.

When the remaining battery indicator becomes ▬, **normal charge** is completed. For **full charge**, which allows you to use the battery longer than usual, leave the battery pack attached for about 1 hour after normal charge is completed until FULL appears in the display window.

Before using the camcorder with the battery pack, unplug the AC power adaptor from the DC IN jack of the camcorder. You can also use the battery pack before it is completely charged.



Notes

- "– – – min" appears on the display window until the camcorder calculates remaining battery time.
- Remaining battery time indication on the display window roughly indicates the recording time with the viewfinder. Use it as a guide. It may differ from the actual recording time.

Charging time

Battery pack	Charging time *
NP-F330 (supplied)	150 (90)
NP-F530	210 (150)
NP-F550	210 (150)
NP-F730	300 (240)
NP-F750/NP-F730H**	300 (240)
NP-F930	390 (330)
NP-F950	390 (330)

The time required for a normal charge is indicated in parentheses.
* Approximate minutes to charge an empty battery pack using the supplied AC power adaptor. (Lower temperatures require a longer charging time.)
** NP-F730H is sold only in the U.S.A.

Battery life

While using with viewfinder

Battery pack	Continuous recording time *	Typical recording time **
NP-F330 (supplied)	70 (65)	40 (35)
NP-F530	115 (105)	55 (50)
NP-F550	145 (130)	70 (65)
NP-F730	260 (235)	135 (125)
NP-F750/NP-F730H***	300 (265)	160 (140)
NP-F930	405 (360)	210 (185)
NP-F950	465 (420)	235 (220)

While using with LCD

Battery pack	Continuous recording time *	Typical recording time **	Playing time with LCD
NP-F330 (supplied)	60 (50)	30 (25)	70 (65)
NP-F530	90 (80)	50 (45)	115 (105)
NP-F550	115 (100)	60 (50)	145 (130)
NP-F730	200(180)	110 (100)	260 (235)
NP-F750/NP-F730H***	240 (210)	135 (125)	300 (265)
NP-F930	310 (280)	170 (155)	405 (360)
NP-F950	360 (320)	200 (180)	465 (420)

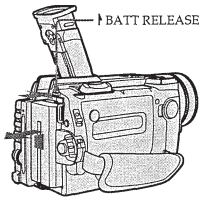
Numbers in parentheses indicate the time when you use a normally charged battery.
Battery life will be shorter if you use the camcorder in a cold environment.
* Approximate continuous recording time indoors.
** Approximate minutes when recording while you repeat recording start/stop, zooming and turning the power on/off. The actual battery life may be shorter.
*** NP-F730H is sold only in the U.S.A.

Notes on remaining battery time indication during recording

- Remaining battery time is displayed on the LCD screen or in the viewfinder. However, the indication may not be displayed properly, depending on using conditions and circumstances.
- When you close the LCD panel or open it, it takes about 1 minute for the correct remaining time to be displayed.

To remove the battery pack

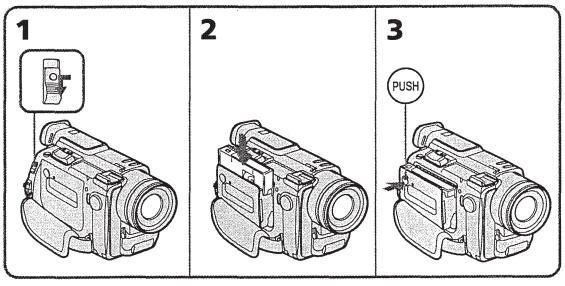
Lift up the viewfinder. While pressing BATT RELEASE, slide the battery pack in the direction of the arrow.



You can use mini DVCAM cassette with DVCAM logo*.
Make sure that the power source is installed.

(1) While pressing the small blue button on the EJECT switch, slide it in the direction of the arrow. The cassette compartment automatically opens.
(2) Insert a cassette with the window facing out.
(3) Close the cassette compartment by pressing the "PUSH" mark on the cassette compartment.

* DVCAM is a trademark.

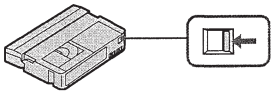


To eject the cassette

While pressing the small blue button on the EJECT switch, slide it in the direction of the arrow.

To prevent accidental erasure

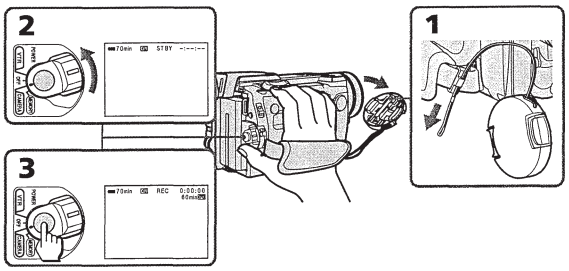
Slide and open the tab on the cassette to expose the red mark. If you try to record with the red mark exposed, the ⊠ and ⏏ indicators flash on the LCD screen or in the viewfinder, and you cannot record on the tape. To re-record on this tape, slide and close the tab to cover the red mark.



Camera recording

Make sure that the power source is installed and a cassette is inserted. Before you record one-time events, you had better make a trial recording to make sure that the camcorder is working correctly.
When you use the camcorder for the first time, power on it and reset the date and time to your time before you start recording (p. 118).

(1) Remove the lens cap by pressing both knobs on its sides and pull the lens cap string to fix it.
(2) While pressing the small green button on the POWER switch, set it to CAMERA. The camcorder is set to Standby mode.
(3) Press START/STOP.
The camcorder starts recording. "REC" appears on the LCD screen or in the viewfinder. The camera recording lamp on the front of the camcorder also lights up.



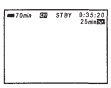
To stop recording momentarily [a]

Press START/STOP. The "STBY" indicator appears on the LCD screen or in the viewfinder **(Standby mode)**.

To finish recording [b]

Set the POWER switch to OFF. Then, eject the cassette and remove the battery pack.

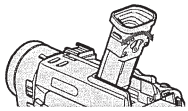
[a]



[b]

To focus the viewfinder lens

If you cannot see the indicators in the viewfinder clearly, or after someone else has used the camcorder, focus the viewfinder lens. Move the viewfinder lens adjustment lever so that the indicators in the viewfinder come into sharp focus.



Note on Standby mode
If you leave the camcorder in Standby mode for 5 minutes while the cassette is inserted, the camcorder turns off automatically. This prevents wearing down the battery and wearing out the tape. To resume Standby mode, while pressing the small green button on the POWER switch, set it to OFF once, and then to CAMERA. To start recording, press START/STOP.

Note on the progressive mode
If you modify the images on your personal computer or play the images back as still pictures, we recommend you to set PROG. SCAN to ON in the menu system before shooting. The picture quality may improve in this mode, but if you shoot a moving subject, the image may shake when it is played back.

Note on the lock knob
When you set the lock knob to the left position, the POWER switch will not be set to MEMORY accidentally.

Lock knob

Notes on the time code
- The time code indicates the recording or playback time, "0:00:00" (hours : minutes : seconds) in CAMERA mode and "0:00:00:00" (hours : minutes : seconds : frames) in VTR mode.
- Be sure not to make a blank portion when recording, because the time code will start from "0:00:00:00" again.
- You can select the drop frame or non-drop frame system using the menu. (DSR-PD100 only)
- You can reset the time code to "0:00:00" in the CAMERA mode or to "0:00:00:00" in the VTR mode. Press the TC RESET button in the Recording or Recording pause mode.

Note on the tape recorded in the DV format
If you record in the DVCAM format on the tape that has been recorded in the DV format, the playback picture and sound may be distorted between the two formats.

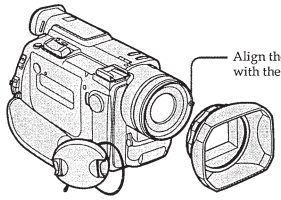
Note on the beep sound
Note that the beep sound is not recorded on the tape. If you do not want to hear the beep sound, select OFF in the menu system.

Note on remaining tape indicator
The indicator may not be displayed accurately depending on the tape. Though the indicator does not appear at the time of recording, it will appear in a few seconds.

Camera recording

Attaching the lens hood

When the supplied wide conversion lens is not attached to the camcorder, we recommend you to attach the lens hood to record fine pictures, no matter where you shoot. You can also attach the lens cap when using the lens hood.

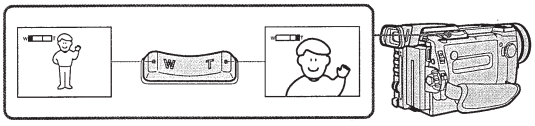


If the lens hood is not attached properly
The four corners of the screen may be eclipsed by the lens hood.

If an optional lens or filter is attached
When an optional lens or filter is attached to the camcorder, you cannot attach the lens hood. Detach the optional lens or filter before attaching the lens hood.

Using the zoom feature

Zooming is a recording technique that lets you change the size of the subject in the scene. For more professional-looking recordings, use the zoom function sparingly.
"**T**" side: for telephoto (subject appears closer)
"**W**" side: for wide-angle (subject appears farther away)



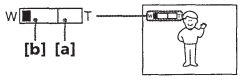
Zooming speed (Variable speed zooming)

Press the power zoom lever a little for a relatively slow zoom; press it still more for a high-speed zoom.

When you shoot a subject using a telephoto zoom
If you cannot get a sharp focus while in extreme telephoto zoom, press the "W" side of the power zoom lever until the focus is sharp. You can shoot a subject that is at least about about 80 cm (2 5/8 feet) away from the lens surface in the telephoto position, or about 1 cm (about 1/2 inch) away in the wide-angle position.

Zooming of more than 12x – digital zoom

- If you set the D ZOOM function to ON in the menu system, you can perform zooming of more than 12x performed digitally. It is set to OFF at the factory.
- You cannot use the digital zoom when you set PROG. SCAN to ON in the menu system.
- The right side **[a]** of the power zoom indicator shows the digital zooming zone, and the left side **[b]** shows the optical zooming zone. If you set the D ZOOM function to ON, the **[a]** zone appears.

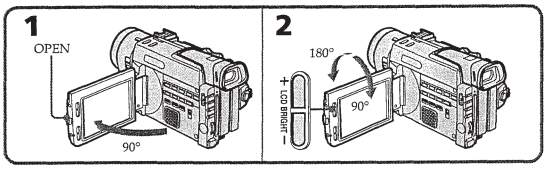


Shooting with the LCD screen

You can also record the picture while looking at the LCD screen.
When using the LCD screen, the viewfinder turns off automatically except in mirror mode.
You cannot monitor the sound from the speaker during recording.

(1) While pressing OPEN, open the LCD panel.
(2) Adjust angle of the LCD panel.
The LCD panel moves about 90 degrees to this side and about 180 degrees to the other side.
To adjust the brightness of the LCD screen, press LCD BRIGHT + or –.

The battery life is longer when the LCD panel is closed. Use the viewfinder instead of the LCD screen to save the battery power.



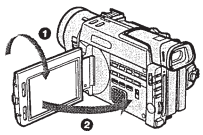
Backlighting the LCD screen

If the LCD screen is insufficiently illuminated even after adjusting LCD BRIGHT, select LCD B. L. in the menu system and set to BRIGHT. You can select LCD B. L. only while using the battery pack as a power source.

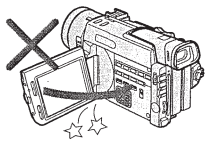
Notes on the LCD panel

- When closing the LCD panel, turn it vertically until it clicks **[a]**.
- When turning the LCD panel, turn it always vertically; otherwise, the camcorder body may be damaged or the LCD panel may not close properly **[b]**.
- Close the LCD panel completely when not in use.
- Do not push nor touch the LCD panel while operating the camcorder.
- You may find it difficult to view the LCD screen due to glare when using the camcorder outdoors.

[a]



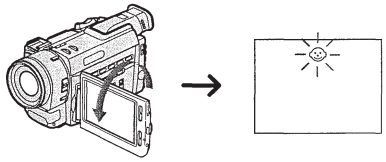
[b]



Letting the subject monitor the shot

You can turn the LCD panel over so that it faces the other way and you can let the subject monitor the shot while shooting with the viewfinder.

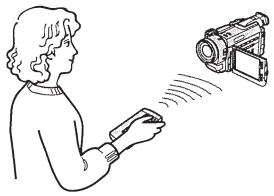
Turn the LCD panel up vertically. When you turn the LCD panel 180 degrees, the ☺ indicator appears on the LCD screen **(mirror mode)** and the time code and remaining tape indicators disappear.
You can also use the Remote Commander.



To cancel mirror mode
Turn the LCD panel down toward the camcorder body.

Notes on mirror mode

- When you turn the LCD panel about 135 degrees to 180 degrees, the camcorder enters mirror mode.
- Using the mirror mode, you can record yourself while watching yourself on the LCD screen.
- The picture on the LCD screen looks like a mirror-image while recording in mirror mode. The STBY indicator appears as ❚❚● and REC as ●. Other indicators appear as mirror-image. Some indicators may not appear in mirror mode.
- While recording in mirror mode, you cannot operate the following functions: MENU, TITLE.

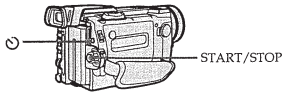


Self-timer recording

You can make a recording with the self-timer. This mode is useful when you want to record yourself.

(1) Press ⏲ (self-timer) to display ⏲ (self-timer) on the LCD screen or in the viewfinder while the camcorder is in Standby mode.

(2) Press START/STOP.
Self-timer starts counting down to 10 with a beep sound. In the last two seconds of the countdown, the beep sound gets faster, then recording starts automatically at the time you set.



To stop self-timer recording

Press START/STOP.
Use the Remote Commander for convenience.

To record still pictures using the self-timer

Press PHOTO in step 2.

To cancel self-timer recording

Press ⏲ so that the ⏲ indicator disappears from the LCD or viewfinder screen while the camcorder is in Standby mode.

Self-timer recording mode is canceled when

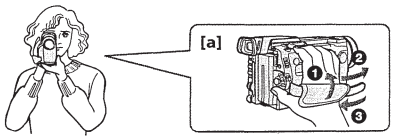
- Self-timer recording is finished.
- The POWER switch is set to OFF or VTR.

Note
The display may become darker right after pressing the ⏲ button. This is not a malfunction.

Hints for better shooting

For hand-held shots, you will get better results by holding the camcorder according to the following suggestions:

- Hold the camcorder firmly and secure it with the grip strap so that you can easily manipulate the controls with your thumb. **[a]**



- Place your elbows against your side.
- Place your left hand under the camcorder to support it.
- Place your eye against the viewfinder eyecup.
- Be sure not to touch the built-in microphone.
- Use the LCD panel frame or the viewfinder frame as a guide to determine the horizontal plane.
- You can also record in a low position to get an interesting angle. Lift the viewfinder up for record from a low position. **[b]**
- You can also record in a low position or even in a high position using the LCD panel. **[c]**
- When you use the LCD screen outdoors in direct sunlight, the LCD screen may be difficult to see. If this happens, we recommend that you use the viewfinder.

[b]

[c]

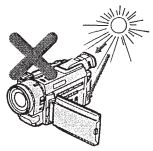
Hints for better shooting

Place the camcorder on a flat surface or use a tripod
Try placing the camcorder on a table top or any other flat surface of suitable height. If you have a tripod for a still camera, you can also use it with the camcorder. When attaching a non-Sony tripod, make sure that the length of the tripod screw is less than 6.5 mm (9/32 inch). Otherwise, you cannot attach the tripod securely and the screw may damage the camcorder.

Cautions on the LCD panel and on the viewfinder
- Do not pick up the camcorder by the viewfinder or the LCD panel. **[d]**
- Do not place the camcorder so as to point the viewfinder or the LCD panel toward the sun. The inside of the viewfinder or the LCD panel may be damaged. Be careful when placing the camcorder under sunlight or by a window. **[e]**

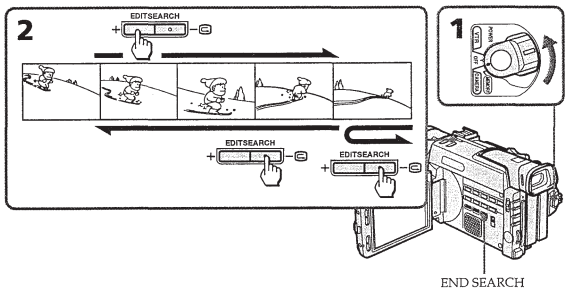
[d]

[e]



Checking the recorded picture

Using the EDITSEARCH, you can review the last recorded scene or check the recorded picture on the LCD screen or in the viewfinder.
(1) While pressing the small green button on the POWER switch, set it to CAMERA.
(2) Press the – ⊖ side of EDITSEARCH momentarily; the last few seconds of the recorded portion plays back **(Rec Review)**. Hold down the – side of EDITSEARCH until the camcorder goes back to the scene you want. The last recorded portion is played back. To go forward, hold down the + side **(Edit Search)**.



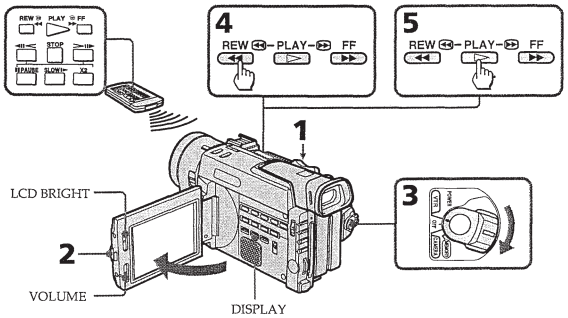
To stop playback
Release EDITSEARCH.

To go back to the last recorded point (END SEARCH)
Press END SEARCH. The last recorded point is played back for about 5 seconds and stops. Note that when you use a tape without cassette memory, this function does not work once you eject the cassette after recording.

To begin re-recording
Press START/STOP. Re-recording begins from the point you released EDITSEARCH. Provided you do not eject the tape, the transition between the last scene you recorded and the next scene you record will be smooth.

Playing back a tape

You can monitor the playback picture on the LCD screen or in the viewfinder.
(1) Insert the recorded tape with the window facing out.
(2) While pressing OPEN, open the LCD panel.
(3) While pressing the small green button on the POWER switch, set it to VTR.
(4) Press ◀◀ to rewind the tape.
(5) Press ▷ to start playback.
Adjust the volume using VOLUME +/– and the brightness of the LCD screen using LCD BRIGHT +/–.
You can also monitor the picture on a TV screen, after connecting the camcorder to a TV or VCR.



To stop playback, press □.
To rewind the tape, press ◀◀.
To fast-forward the tape rapidly, press ▶▶.

Using the Remote Commander
You can control playback using the supplied Remote Commander. Before using the Remote Commander, insert the size AA (R6) batteries.

To display the LCD screen/viewfinder screen indicators
Press DISPLAY.
To erase the indicators, press again.

Notes on screen indicators
- The screen indicator disappears when the title is displayed.
- When you play back a tape using a "InfoLITHIUM" battery, ▬ indicates the remaining battery capacity. The remaining battery time in minutes is not displayed.

Using headphones
Connect headphones (not supplied) to the ∩ jack. You can adjust the volume of the headphones using VOLUME +/–.

Playing back a tape

To view the playback picture in the viewfinder
Close the LCD panel. The viewfinder turns on automatically.
When using the viewfinder, you can monitor the sound only by using headphones.
To view on the LCD screen again, open the LCD panel. The viewfinder turns off automatically.

Note on DV-formatted tapes
You can play back DV-formatted tapes on this camcorder if the tape is recorded in SP mode. "SP" appears on the LCD screen or in the viewfinder during playback.
You cannot play back DV-formatted tapes recorded in LP mode.

Various playback modes

To view a still picture (playback pause)
Press ❚❚ during playback. To resume playback, press ❚❚ or ▷.

To locate a scene (picture search)
Keep pressing ◀◀ or ▶▶ during playback. To resume normal playback, release the button.

To monitor the high-speed picture while advancing the tape or rewinding (skip scan)
Keep pressing ◀◀ while rewinding or ▶▶ while advancing the tape. To resume normal rewinding or fast-forward, release the button.

To view the picture at 1/3 speed (slow playback)
Press ❚► on the Remote Commander during playback. For slow playback in reverse direction, press <, then press ❚►. To resume normal playback, press ▷.

To view the picture at double speed
For double speed playback in the reverse direction, press <, then press ×2 on the Remote Commander during playback. For double speed playback in the forward direction, press >, then press ×2 during playback. To resume normal playback, press ▷.

To view the picture frame-by-frame
Press ◄❚ or ❚► on the Remote Commander in playback pause mode. If you keep pressing the button, you can view the picture at 1/30 speed (DSR-PD100) or at 1/25 speed (DSR-PD100P). To resume normal playback, press ▷.

To change the playback direction
Press < on the Remote Commander for reverse direction or > on the Remote Commander for forward direction during playback. To resume normal playback, press ▷ .

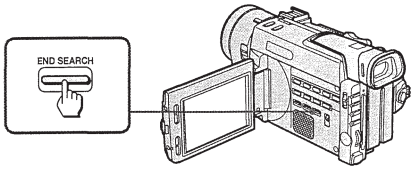
Notes on playback
- The sound is muted in the various playback modes.
- During playback other than normal playback, the previous recording may appear in mosaic image. This is not malfunction.
- When playback pause mode lasts for 5 minutes, the camcorder automatically enters stop mode. To resume playback, press ▷.

Note on slow playback
The slow playback can be performed smoothly on this camcorder; however, this function does not work for an output signal from the i DV IN/OUT jack.

Searching for the end of the picture

You can go to the end of the recorded portion after you record and play back the tape. The tape starts rewinding or fast-forwarding and the last about 5 seconds of the recorded portion plays back. Then the tape stops at the end of the recorded picture **(End Search)**.

Open the LCD panel and press END SEARCH during recording standby.
This function works when the POWER switch is set to CAMERA or VTR.



Notes on End Search

- When you use a tape without cassette memory, the End Search function does not work once you eject the cassette after recording.
- When you use a tape with cassette memory, the End Search function works once you eject the cassette. When you play back a tape which has a blank portion in the beginning or between the recorded portions, the End Search function will not work correctly.

Using alternative power sources

You can choose any of the following power sources for your camcorder: battery pack, and house current (mains). Choose the appropriate power source depending on where you want to use your camcorder.

Place	*Power source*	*Accessory to be used*
Indoors	House current (Mains)	Supplied AC power adaptor
Outdoors	Battery pack	Battery pack NP-F330 (supplied), NP-F530, NP-F550, NP-F730, NP-F730H*, NP-F750, NP-F930, NP-F950

* NP-F730H is sold only in the U.S.A.

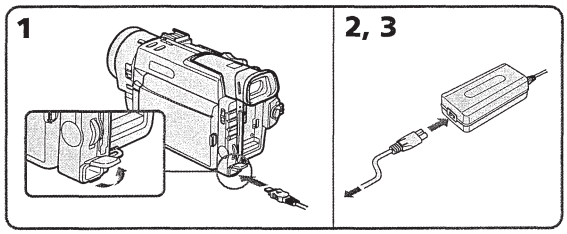
Note on power sources

Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted tape. If this happens, restore the power supply again immediately.

Using the house current (mains)

To use the supplied AC power adaptor:

(1) Open the DC IN jack cover, and connect the AC power adaptor to the DC IN jack on the camcorder.
(2) Connect the power cord (mains lead) to the AC power adaptor.
(3) Connect the power cord (mains lead) to a wall outlet (mains).



WARNING

The power cord (mains lead) must be changed only at a qualified service shop.

PRECAUTION

The set is not disconnected from the AC power source (house current/mains) as long as it is connected to the power cord (mains lead), even if the set itself has been turned off.

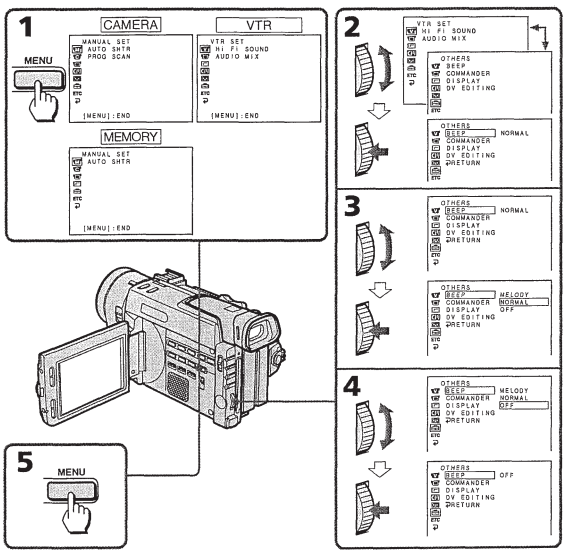
Note

Keep the AC power adaptor away from the camcorder if the picture is disturbed.

Changing the mode settings

You can change some of the mode settings programed at the factory to further enjoy the features and functions of the camcorder. Just turn the control dial to select the menu items displayed on the LCD screen. You can make selections in the following order: the menu display → icons → items → mode settings.

(1) Press MENU to display the menu.
(2) Turn the control dial to select the desired icon on the left side of the menu, then press the dial.
(3) Turn the control dial to select the desired item, then press the dial.
(4) Turn the control dial to select the desired mode, then press the dial. If you want to change the other modes, repeat steps 3 and 4. If you want to change the other items, select ↩ RETURN and press the dial, then repeat steps 2 to 4.
(5) Press MENU to erase the menu display.



Notes on changing the mode settings

- Menu items differ depending on the setting of the POWER switch to VTR, CAMERA or MEMORY.
- While recording in mirror mode, you cannot operate the menu system.

Selecting the mode setting of each item

Menu items that can be modified differ depending on the setting of the POWER switch. The LCD screen shows only the items that you can operate at the moment. The menu items are categorized into nine groups signified by the nine icons described below.

Items for the MANUAL SET menu

AUTO SHTR <ON/OFF>
- Select ON and the electronic shutter functions automatically when shooting in bright conditions.
- Select OFF and the electronic shutter does not function even in bright conditions.

PROG. SCAN* <OFF/ON>
- Select OFF not to record still/moving pictures with all the pixels.
- Select ON to record still/moving pictures with all the pixels.

Items for the CAMERA SET menu

D ZOOM <OFF/ON>
- Select OFF not to use the digital zoom. The camcorder goes back to 12x optical zoom.
- Select ON to activate digital zooming.

16:9WIDE <OFF/ON>
Select this item to record a 16:9 wide picture. See page 39 for details.

STEADYSHOT <ON/OFF>
- Normally select ON.
- Select OFF when you do not have to worry about camera-shake.

AE SHIFT
Adjust the setting level of AE (Automatic Exposure). See page 52 for details.

GAIN SHIFT <0dB/–3dB>
- Set the gain value to 0dB.
- Set the gain value to –3dB.

FRAME REC <OFF/ON>
- Normally select OFF.
- Select ON for cut recording.

When you remove the power source, the setting becomes OFF.

INT.REC <ON/OFF/SET> <WAIT TIME/REC TIME>
- Normally select OFF. Select ON to make an interval recording.
- Select WAIT TIME to set or change the waiting time for interval recording.
- Select REC TIME to set or change the recording time for interval recording.

When you remove the power source, the setting becomes OFF, but the waiting time and recording time are retained.

Items for the VTR SET menu

HiFi SOUND* <STEREO/1/2>
- Select STEREO to play back stereo sound or main and sub sound (for dual sound).
- Select 1 to play back the left sound (for stereo sound) or main sound (for dual sound).
- Select 2 to play back the right sound (for stereo sound) or sub sound (for dual sound).

AUDIO MIX*
Select this item to adjust the balance between the stereo 1 and stereo 2 by turning the control dial.

NTSC PB <ON PAL TV/NTSC 4.43> (DSR-PD100P only)
- Normally select ON PAL TV.
- Select NTSC 4.43 when playing back a tape recorded in the NTSC color system. When you play back on a Multi System TV, select the best mode while watching the picture on the TV.

Items for the LCD/VF SET menu

LCD B.L. <BRT NORMAL/BRIGHT>
- Normally select BRT NORMAL.
- Select BRIGHT when the LCD screen is dark. The battery consumption increases by 10 to 20%.

Even if you adjust the LCD B.L., the recorded picture is not affected.

LCD COLOR (LCD COLOUR)
Select this item and change the level of the indicator by turning the control dial up (+) or down (–) to adjust the color intensity of the picture.

VF BRIGHT
Close the LCD panel.
Select this item to adjust the brightness of the viewfinder. The viewfinder becomes brighter when you turn the control dial up (+), and darker when you turn it down (–).

Items for the MEMORY SET menu

CONTINUOUS <OFF/ON/MULTI SCRN>
- Select OFF not to record continuously.
- Select ON to record 2 to 4 pictures continuously.
- Select MULTI SCRN to record nine pictures continuously.

QUALITY <STANDARD/FINE/SUPER FINE>
- Select STANDARD to record still pictures in the standard image quality mode, using the memory card slot.
- Select FINE to record still pictures in the fine image quality mode, using the memory card slot.
- Select SUPER FINE to record still pictures in the superfine image quality mode, using the memory card slot.

PROTECT <OFF/ON>
- Normally select OFF not to protect still pictures.
- Select ON to protect selected still pictures against accidental erasure. See page 106 for details.

SLIDE SHOW
Select this item to play back images in a continuous loop. See page 112 for details.

DELETE ALL
Select this item to delete all the images. See page 108 for details.

FORMAT
Select this item to format memory sticks or PC cards. See page 94 for details.

PHOTO SAVE
Select this item to duplicate still pictures. See page 98 for details.

Items for the CM SET menu

CM SEARCH <ON/OFF>
- Select ON to search using cassette memory.
- Select OFF to search without using cassette memory.

TITLEERASE
Erase the title you have superimposed.

TITLE DSPL <ON/OFF>
- Select ON to display the title you have superimposed.
- Select OFF not to display the title.

TAPE TITLE
Select this item to label the cassette tape.

ERASE ALL
Select this item to erase all the data in cassette memory.

Items for the TAPE SET menu

AUDIO MODE <FS32K/FS48K>
- Normally select FS32K to record two stereo sounds.
- Select FS48K to record the one stereo sound with high quality.

MIC LEVEL* <AUTO/MANUAL>
- Select AUTO to adjust the recording level automatically.
- Select MANUAL to adjust the recording level manually.

REMAIN <AUTO/ON>
- Select AUTO to display the remaining time of the tape in the following cases:
  - With the power on or a tape inside, for eight seconds after the remaining time of the tape becomes certain.
  - For eight seconds after the ▷ or DISPLAY button is pressed.
  - During rewinding, fast-forwarding, and searching the picture.
- Select ON to always display the remaining time of the tape.

DATA CODE <DATE/CAM or DATE>
- Select DATE/CAM to display date and recording data during playback.
- Select DATE to display date during playback.

TIME CODE <DF/NDF> (DSR-PD100 only)
- Select DF to record in the drop frame system.
- Select NDF to record in the non-drop frame system.

Items for the SETUP menu

CLOCK SET
Select this item to reset the date or time.

LTR SIZE <NORMAL/2X>
- Normally select NORMAL.
- Select 2X to display the selected menu item by twice size of the normal.

Items for the OTHERS menu

WORLD TIME
Select this item to set the clock by a time difference. See page 119 for details.

BEEP <MELODY/NORMAL/OFF>
- Normally select MELODY so that a melody sounds when you start/stop recording, etc.
- Select NORMAL so that beeps sound when you start/stop recording, etc.
- Select OFF when you do not want to hear the beep sound.

COMMANDER* <ON/OFF>
- Select ON when using the supplied Remote Commander for the camcorder.
- Select OFF when not using the Remote Commander.

DISPLAY <LCD or V-OUT/LCD >
- Normally select LCD.
- Select V-OUT/LCD to display indicators both on the LCD screen and TV screen.

REC LAMP <ON/OFF>
- Normally select ON.
- Select OFF when you do not want the camera recording lamp on the front of the unit to light up.

COLOR BAR (COLOUR BAR) <OFF/ON>
- Normally select OFF not to display the color bar.
- Select ON to display the color bar.

DV EDITING
Select this item when editing a tape on another equipment connected with the i.LINK cable (DV connecting cable). See page 82 for details.

* These settings return to the default 5 minutes or more after the power source is disconnected or battery is removed. As far as the other items without an asterisk are concerned, their settings are retained even when the power source is disconnected or battery is removed, as long as the vanadium-lithium battery is charged.

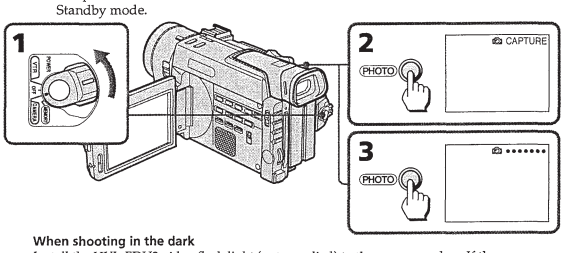
When recording a close subject
When REC LAMP is set to ON, the red camera recording lamp on the front of the camcorder may reflect on the subject if it is close. In this case, we recommend you set REC LAMP to OFF.

Notes
- When playing back a tape recorded in the FS48K (16-bit) mode, you cannot adjust the balance in AUDIO MIX.
- If you select FS48K in AUDIO MODE, you cannot add an audio sound.
- If you select BRIGHT in LCD B.L., the battery life while recording decreases 10 to 20%. When you use a power source other than the battery, the menu item LCD B.L. is set to BRIGHT automatically and the item does not appear on the screen.

Photo recording

You can record a still picture like a photograph for about seven seconds. This photo recording is useful when you want to enjoy a picture such as a photograph or when you print a picture using a video printer (not supplied). You can record about 340 pictures on a 40-minute tape.
Besides the operation described here, this camcorder can record a still picture on a memory stick or PC card (not supplied), using the memory card slot (see page 100).
You can also record still/moving pictures on a mini DVCAM tape with all the pixels in the progressive mode. See page 35 for details.

(1) While pressing the small green button on the POWER switch, set it to CAMERA.
(2) Keep pressing PHOTO lightly until a still picture and "CAPTURE" appears on the LCD screen or in the viewfinder.
Recording does not start yet. To change the still picture, release PHOTO, select still picture again, and keep pressing PHOTO lightly again.
If you press PHOTO on the Remote Commander when a still picture appears on the LCD screen or in the viewfinder, the camcorder will record that still picture. However, you cannot select other still pictures by using this button.
(3) Press PHOTO deeper.
The still picture on the LCD screen or in the viewfinder is recorded for about seven seconds. The sound during those seven seconds is also recorded.
To record a still picture while normal recording, press PHOTO deeper. Then the still picture is recorded for about seven seconds and the camcorder returns to Standby mode.



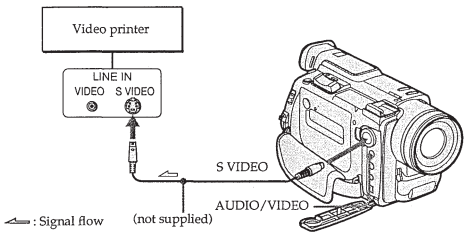
When shooting in the dark
Install the HVL-FDH2 video flash light (not supplied) to the accessory shoe. If the exposure is in manual exposure mode, set it to automatic exposure mode.
When ⚡ appears next to the "CAPTURE" indicator on the LCD screen or in the viewfinder, the video flash is ready to be used.

Note on the still picture
When the still picture recorded on this camcorder is played back on another VCR, the picture may be blurred. This is not a malfunction.

When you press PHOTO while recording a photo
The picture on the LCD screen or in the viewfinder whenever you press PHOTO will be recorded. You cannot check the recorded picture by pressing PHOTO lightly.
After the moving picture is recorded as a still picture for about seven seconds, the camcorder will go back to Standby mode.

Printing the still picture

You can print a still picture by using the video printer (not supplied). Connect the video printer using the S video connecting cable (not supplied). Refer to the operating instruction of the video printer as well.

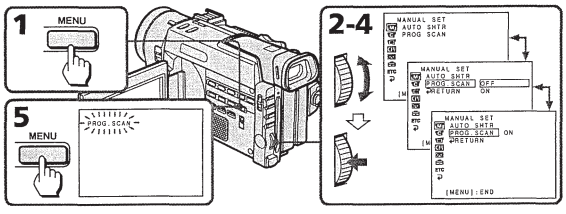


If the video printer is not equipped with S VIDEO input
Use the supplied A/V connecting cable. Connect it to the AUDIO/VIDEO jack and connect the yellow plug of the cable to the VIDEO input of the video printer.

Shooting with all the pixels – PROG. SCAN

When modifying the digital images on your personal computer, set PROG. SCAN to ON before shooting. You can record the images on a mini DVCAM tape frame by frame with higher resolution.
Since the image taken in progressive mode does not go out of focus even in a pause, it is especially useful when you analyze high-speed actions such as sport scenes.

(1) Press MENU to display the menu in Standby mode.
(2) Turn the control dial to select , then press the dial.
(3) Turn the control dial to select PROG. SCAN, then press the dial.
(4) Turn the control dial to select ON, then press the dial.
(5) Press MENU to erase the menu display. The PROG. SCAN indicator lights up.



To return to normal mode
Select OFF in step 4, then press the control dial.

Note on the progressive mode
The normal TV broadcast divides the screen into two finer fields and displays them in turns every 1/60 of a second (DSR-PD100) or 1/50 of a second (DSR-PD100P). Thus, the actual image displayed in an instant covers only half of the apparent image area. Displaying the whole image simultaneously on a full screen is called displaying with all the pixels. In this mode, the resolution of the still picture is twice as high as in the normal mode. This camcorder takes in an image every 1/30 of a second (DSR-PD100) or 1/25 of a second (DSR-PD100P), which may cause the image of a moving object to go out of focus.

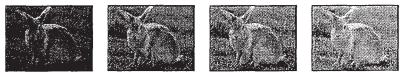
The setting at the factory
This camcorder is originally programed to record still/moving pictures on a mini DVCAM tape in the normal TV format (Interlace format).

When shooting under fluorescent light
When shooting in the progressive mode under fluorescent light or light bulb, a rare phenomenon may happen in which the screen lights up brightly (Flicker phenomenon). This is not a malfunction. If you want to stop this phenomenon, set PROG. SCAN to OFF in the menu system.

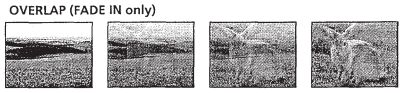
Using the FADER function

You can fade in or out to give your recording a professional appearance.
When fading in, the picture gradually fades in while the sound increases. When fading out, the picture gradually fades out while the sound decreases.

FADER
[a] STBY REC



OVERLAP (FADE IN only)

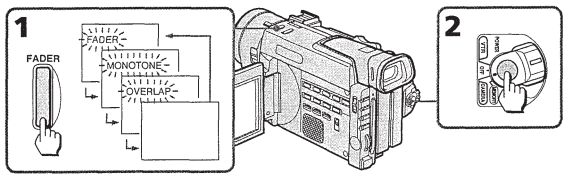


[b] STBY REC

MONOTONE
When fading in, the picture gradually changes from black and white to color.
When fading out, the picture gradually changes from color to black and white.

When fading in [a]
(1) While the camcorder is in Standby mode, press FADER until the desired indicator flashes.
(2) Press START/STOP to start recording. The fade indicator stops flashing.

When fading out [b]
(1) During recording, press FADER until the desired indicator flashes.
(2) Press START/STOP to stop recording. The fade indicator stops flashing, and then recording stops.



Using the FADER function

To cancel the fader function

Before pressing START/STOP, press FADER until the fade indicator disappears.

You cannot use the fader function in the following situations

– The camcorder is in the photo recording.
– A title is displayed on the LCD screen or in the viewfinder. If the title is not necessary, erase it before using the fader function.

Note

During fading, you cannot operate the DIGITAL EFFECT button.

The fader function is effective in the following situations

- A big change of scene (FADE IN, FADE OUT)
- The beginning of a story (FADE IN)
- The end of a day (FADE OUT)
- Change the scene while leaving the trace of the previous scene

If you use the fader function repeatedly

The situation the subject is in cannot be seen clearly, thus making the picture difficult to enjoy.

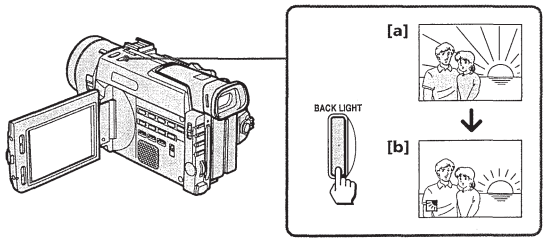
When the OVERLAP indicator appears

The camcorder automatically memorizes the image recorded on a tape. As the image is being memorized, the OVERLAP indicator flashes fast, and the playback picture is displayed. At this stage, the picture may not be recorded clearly, depending on the tape condition.

Shooting with backlighting

When you shoot a subject with the light source behind the subject or a subject with a light background, use the BACK LIGHT function.

Press BACK LIGHT. The indicator appears on the LCD screen or in the viewfinder.



[a] Subject is too dark because of backlight.

[b] Subject becomes bright with backlight compensation.

After shooting

Be sure to release this adjustment condition by pressing BACK LIGHT again. The indicator disappears. Otherwise, the picture will be too bright under normal lighting condition.

This function is also effective under the following conditions:

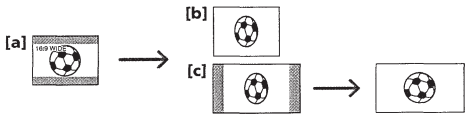
- A subject with a light source nearby or a mirror reflecting light.
- A white subject against a white background. Especially when you shoot a person wearing shiny clothes made of silk or synthetic fiber, his or her face tends to become dark if you do not use this function.

Note on the BACK LIGHT function

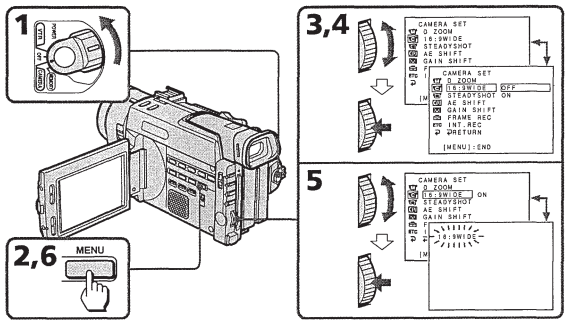
When you press EXPOSURE or SHUTTER SPEED, the BACK LIGHT function is canceled.

Using the wide mode function

You can record a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9WIDE). The picture with black bands at the top and the bottom on the LCD screen or in the viewfinder **[a]** is normal. The picture on a normal TV **[b]** is horizontally compressed. You can watch the picture of normal images on a wide-screen TV **[c]**.



(1) Set the POWER switch to CAMERA.
(2) Press MENU to display the menu.
(3) Turn the control dial to select , then press the dial.
(4) Turn the control dial to select 16:9WIDE, then press the dial.
(5) Turn the control dial to select ON, then press the dial.
(6) Press MENU to erase the menu display.



To cancel wide mode

Select OFF in step 5, then press the control dial.

To watch the tape recorded in wide mode

To watch the tape recorded in 16:9WIDE mode, set it to full mode. For details, refer to the operating instruction of your TV.
Note that the picture recorded in 16:9WIDE mode looks compressed on a normal TV.

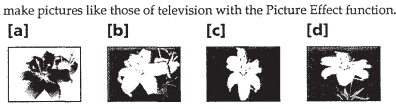
Notes on wide mode

- In wide mode, you cannot select the old movie function with DIGITAL EFFECT.
- You cannot select or cancel the wide mode during recording.
- You cannot use the wide mode function when you set PROG. SCAN to ON.

Enjoying picture effect

Selecting picture effect

You can make pictures like those of television with the Picture Effect function.



NEG. ART [a]
The color of the picture is reversed.

SEPIA
The picture is sepia.

B&W
The picture is monochrome (black and white).

SOLARIZE [b]
The light intensity is clearer, and the picture looks like an illustration.

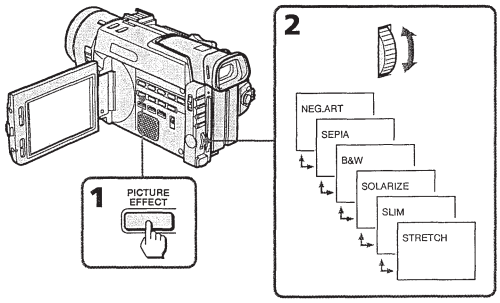
SLIM [c]
The picture expands vertically.

STRETCH [d]
The picture expands horizontally.

Enjoying picture effect

Using picture effect function

(1) While in Standby mode, press PICTURE EFFECT.
(2) Turn the control dial to select the desired picture effect mode.



To return to normal mode
Press PICTURE EFFECT so that the indicator disappears.

Notes on the picture effect
- When you turn the power off, the camcorder returns automatically to normal mode.
- You cannot select SLIM and STRETCH when you set PROG. SCAN to ON.
- While using the picture effect function, you cannot select the old movie function with DIGITAL EFFECT.

Recording with various effects – digital effect

With the following functions of Digital Effect, you can add various visual effects to the picture. The sound is recorded normally.

STILL
You can record a still picture to be superimposed on a moving picture.

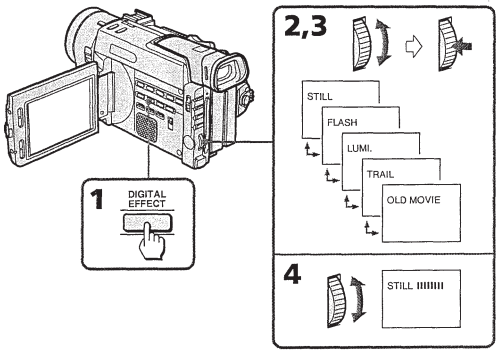
FLASH
You can record still pictures successively at constant intervals.

LUMI.
You can replace a brighter portion of a still picture with a moving picture.

TRAIL
You can record the picture which leaves an incidental image, such as a trail.

OLD MOVIE
You can record the picture such as an old movie. The camcorder automatically sets the wide mode to 16:9WIDE, picture effect to SEPIA, and the appropriate shutter speed.

(1) While in Standby mode or Recording mode, press DIGITAL EFFECT.
The digital effect indicator flashes.
(2) Turn the control dial to select the desired digital effect mode.
(3) Press the control dial. The digital effect indicator lights up and the bars appear. The bar does not appear in the OLD MOVIE mode. The still picture is stored in memory in the STILL or LUMI. mode.
(4) Turn the control dial to adjust effects.
The longer the bar is, the greater the effects are.
STILL : The proportion of still picture to moving picture.
FLASH : The length of the intervals.
LUMI. : The brightness of the area where you paste the moving picture.
TRAIL : The length of time the incidental image remains.
OLD MOVIE : No adjustment necessary.



To cancel digital effects
Press DIGITAL EFFECT so that the indicator disappears.

Notes on digital effect
- You cannot use the following functions while using the digital effect.
  – Functions using the FADER button
  – Functions using the PHOTO button
- When you set the POWER switch to OFF, the digital effect will be canceled automatically.

Notes on the OLD MOVIE mode
You cannot use the following functions in the OLD MOVIE mode.
– Functions using the PROGRAM AE button
– 16:9WIDE mode
– Functions using the PICTURE EFFECT button

Shooting with manual adjustment

Under normal conditions, this unit automatically makes various adjustments as it shoots. However, you can adjust manually the following functions to your preference.

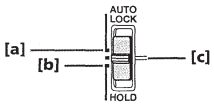
Functions you can adjust by setting the AUTO LOCK selector to the center (auto lock release) position
Brightness (exposure), shutter speed, white balance, and program AE

Functions you can adjust by setting MENU
Recording level, deactivating the Steady Shot, gain shift, and AE shift

Functions you can adjust by using other buttons/switches
ND filter, focus, zebra pattern

The following describes how to adjust all the functions mentioned above except program AE (see page 54) and focus (see page 57).

AUTO LOCK selector
Set the selector as shown below to maintain or release the settings of the functions.



AUTO LOCK [a]
Select this position to let the unit adjusts all the functions automatically.

HOLD [b]
Select this position after setting the functions manually to maintain the settings.

Manual position [c]
Select this position to adjust manually the functions listed above.

Adjusting exposure

Adjust the exposure manually under the following cases.

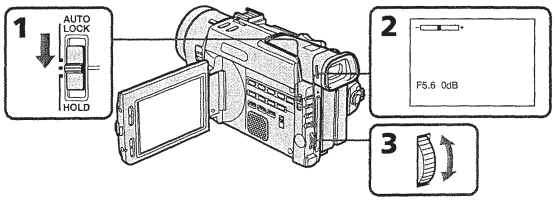
[a]

[b]

[a]
- The background is too bright (back lighting)
- Insufficient light: most of the picture is dark

[b]
- Bright subject and dark background
- To record the darkness faithfully

(1) Set AUTO LOCK selector to the center (auto lock release) position while the camcorder is in Standby mode.
(2) Press EXPOSURE. The exposure indicator appears on the LCD screen or in the viewfinder.
(3) Turn the control dial to adjust the exposure.



To return to automatic exposure mode

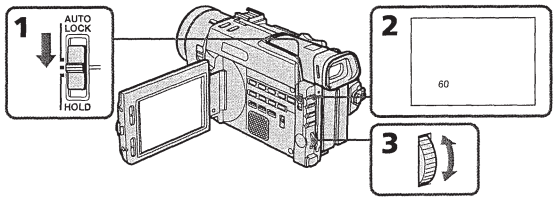
Set AUTO LOCK selector to AUTO LOCK or press EXPOSURE to turn off the exposure indicator.

Notes

- The control dial does not have a stop position.
- If you press PROGRAM AE, the exposure comes back to automatic adjustment again.
- When you adjust the exposure manually, you cannot use the BACK LIGHT function.

Adjusting the shutter speed

(1) Set AUTO LOCK selector to the center (auto lock release) position while the camcorder is in Standby mode.
(2) Press SHUTTER SPEED. The shutter speed indicator appears on the LCD screen or in the viewfinder.
(3) Turn the control dial to select the desired speed. The available shutter speed ranges from 1/4 to 1/10000.



To return to automatic shutter speed mode

Set AUTO LOCK selector to AUTO LOCK or press SHUTTER SPEED to turn off the shutter speed indicator.

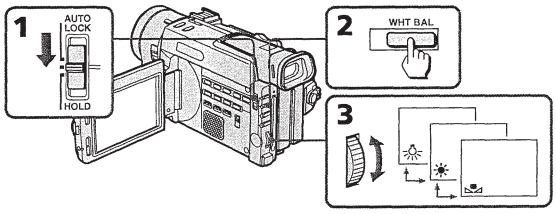
When shooting at slow shutter speed

At slow shutter speed, automatic focus may be lost. Adjust focus manually using a tripod.

Adjusting the white balance

White balance adjustment makes white subjects look white and allows more natural color balance for camera recording. Normally white balance is automatically adjusted. You can obtain better results by adjusting the white balance manually when lighting conditions change quickly or when recording outdoors: e.g., neon signs, fireworks.

(1) Set AUTO LOCK selector to the center (auto lock release) position while the camcorder is in Standby mode.
(2) Press WHT BAL. The white balance indicator appears on the LCD screen or in the viewfinder.
(3) Turn the control dial to select the appropriate white balance mode under the following conditions. As you turn the dial, the display changes as follows: (One-push white balance) ↔ ☀ (Outdoor) ↔ (Indoor).



Display	Shooting conditions
	• Adjusting the white balance according to the light source. This operation is not available during recording. Follow the steps described on the next page to adjust the settings again.
☀ (Outdoor)	• Recording a sunset/sunrise, just after sunset, just before sunrise, neon signs, or fireworks • Under a color matching fluorescent lamp
(Indoor)	• Lighting condition changes quickly • Too bright place such as photography studios • Under sodium lamps or mercury lamps

If you have selected in step 3

When you set the white balance to one-push white balance mode, the setting is locked and maintained even if lighting conditions change. You can achieve recording with natural colors without being affected by ambient light.
(With the indicator on the screen)
(1) Shoot a white object such as paper fully on the LCD screen or in the viewfinder.
(2) Press the control dial.
The indicator flashes quickly. When the white balance has been adjusted and stored in the memory, the indicator stops flashing. The setting will be maintained for about one hour after the battery is detached.

To return to automatic adjustments

Set AUTO LOCK selector to AUTO LOCK or press WHT BAL to turn off the white balance indicator.

Notes on the indicator on the screen

- The state of the indicator shows as follows:
  Slow flashing: white balance is not adjusted.
  Fast flashing: white balance is being adjusted.
  Lights up: white balance has been adjusted.
- When the indicator remains flashing even if you press the control dial, shoot in automatic white balance mode.

Notes on white balance

- When you shoot with studio lighting or video lighting, use the (indoor) mode.
- When you shoot with fluorescent lighting, use automatic white balance mode. If you use the (indoor) mode, white balance may not be adjusted appropriately.

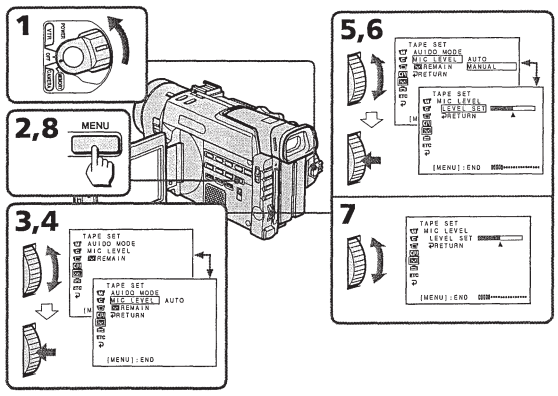
Shooting when lighting conditions change

- When lighting conditions have changed, readjust the white balance with the control dial while the camcorder is in Standby mode.
- When you adjust the exposure and shutter speed manually, and move from indoors to outdoors, or vice versa, adjust the white balance again.
- When you move from indoors to outdoors, or vice versa, or detach the battery for replacement while shooting in automatic white balance mode or set the POWER switch to CAMERA, point the camcorder at a white subject for about 10 seconds before you start recording.

Adjusting recording level

You can adjust the recording sound level. Use headphones to monitor the sound when you adjust.

(1) Set the POWER switch to CAMERA.
(2) Press MENU to display the menu.
(3) Turn the control dial to select , then press the dial.
(4) Turn the control dial to select MIC LEVEL, then press the dial.
(5) Turn the control dial to select MANUAL, then press the dial.
(6) Turn the control dial to select LEVEL SET, then press the dial.
(7) Turn the control dial to adjust the microphone level, so that the peak indicator in the lower-right corner does not light up. It is recommended to use headphones (not supplied) to monitor the sound when making the adjustment.
(8) Press MENU to erase the menu display.



To adjust the microphone level automatically

Select AUTO in step 5, then press the control dial.

Notes on the adjustment

- The sound level setting is retained as long as the power is on and for about five minutes after removing the battery.
- Sound level indicator appears at the lower right on the LCD screen or in the viewfinder.

The sound input through the AUDIO/VIDEO jack

You cannot adjust the recording level of the sound.

Using the ND filter

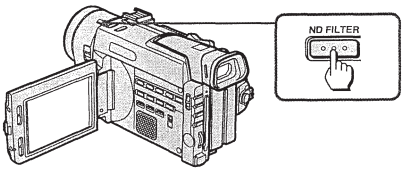
Using the ND filter (corresponds to 16% of the quantity of light), you can record a picture clearly, preventing the picture from going out of focus under bright conditions.

When ND ON flashes on the LCD screen or in the viewfinder

The ND filter is necessary. Press ND FILTER so that the ND ON indicator appears.
The ND filter is now activated.

When ND OFF flashes on the LCD screen or in the viewfinder

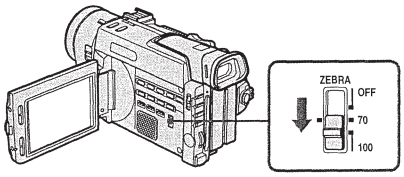
The ND filter is not necessary. Press ND FILTER so that the ND OFF indicator stops flashing.
The ND filter is now deactivated.



Shooting with the zebra pattern

You can set the camcorder to display a zebra pattern (diagonal stripes) in the portion of the picture on the LCD screen or in the viewfinder with a subject whose brightness exceeds a certain level. The portion of the picture where zebra pattern appears is an area of high brightness and overexposure. You can check the picture level of a subject by displaying the zebra pattern. Use the zebra pattern as a guide for adjusting the exposure and shutter speed so that you can get the desired picture.

Set the ZEBRA selector to 70 or 100.



To erase the zebra pattern

Set the ZEBRA selector to OFF.

Settings of the ZEBRA selector

Setting	Meaning
70	The zebra pattern appears in the portion of the picture on the LCD screen or in the viewfinder with a subject whose brightness is about 70 IRE (70%).
100	The zebra pattern appears in the portion of the picture on the LCD screen or in the viewfinder with a subject whose brightness exceeds more than 100 IRE (100%).
OFF	The zebra pattern does not appear on the LCD screen or in the viewfinder.

Note on shooting with the zebra pattern

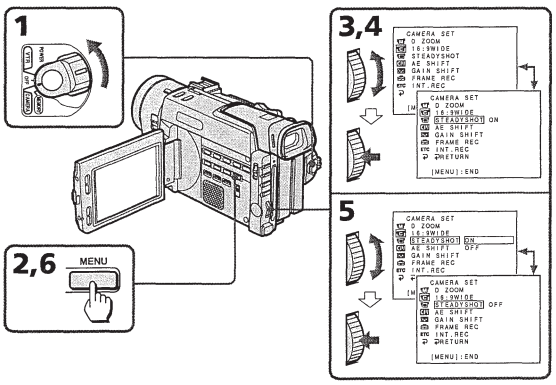
Even though you see the zebra pattern on the LCD screen or in the viewfinder, the zebra pattern is not recorded.

Releasing the Steady Shot function

When the Steady Shot function is working, the camcorder compensates for camera-shake.

You can release the Steady Shot function when you do not need to use it. The ✾ indicator appears on the LCD screen or in the viewfinder. Do not use the Steady Shot function when shooting a stationary object with a tripod.

(1) Set the POWER switch to CAMERA.
(2) Press MENU to display the menu.
(3) Turn the control dial to select 📷, then press the dial.
(4) Turn the control dial to select STEADYSHOT, then press the dial.
(5) Turn the control dial to select OFF, then press the dial.
(6) Press MENU to erase the menu display.



To activate the Steady Shot function again

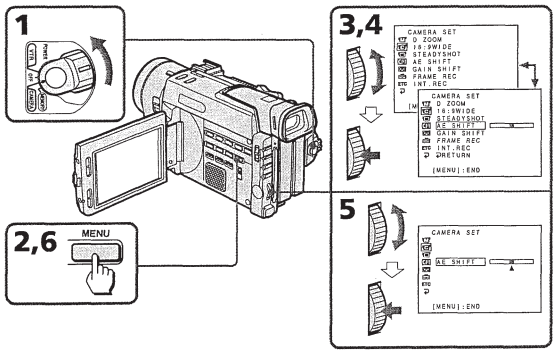
Select ON in step 5, then press the control dial.

Notes on the Steady Shot function

- The Steady Shot function will not correct excessive camera-shake.
- If you use a tele conversion lens or a wide conversion lens, the Steady Shot function may not be fully effective.

Adjusting AE shift

(1) Set the POWER switch to CAMERA.
(2) Press MENU to display the menu.
(3) Turn the control dial to select 📷, then press the dial.
(4) Turn the control dial to select AE SHIFT, then press the dial.
(5) Turn the control dial to adjust brightness, then press the dial.
Darker picture ⟷ Brighter picture
(6) Press MENU to erase the menu display.



To deactivate AE shift

Set the bar indicator at the center in step 5, then press the control dial.

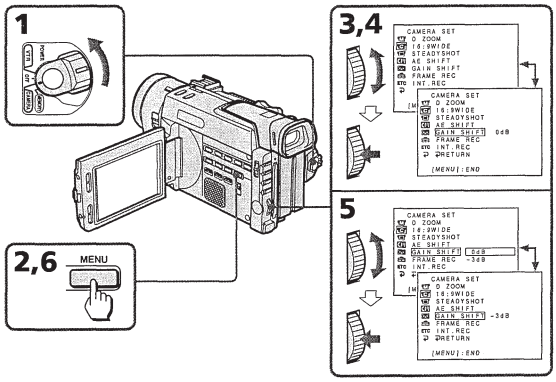
When you adjust AE shift

The ⊞-4 to ⊞+4 indicator is displayed on the LCD screen or in the viewfinder. The number varies corresponding to the AE shift level.

Shooting with manual adjustment

Adjusting gain shift

(1) Set the POWER switch to CAMERA.
(2) Press MENU to display the menu.
(3) Turn the control dial to select , then press the dial.
(4) Turn the control dial to select GAIN SHIFT, then press the dial.
(5) Turn the control dial to select –3dB, then press the dial.
(6) Press MENU to erase the menu display.



To deactivate gain shift
Select 0dB in step 5, then press the control dial.

What is gain shift
When shooting in bright conditions, the gain shift function automatically adjusts the automatic exposure control's gain value to –3dB as much as possible. This helps you shoot pictures with less noises in a bright condition. In dark conditions, the unit operates as usual.

When you adjust gain shift
The indicator is displayed on the LCD screen or in the viewfinder.

Using the PROGRAM AE function

You can select from five PROGRAM AE (Auto Exposure) modes to suit your shooting situation, referring to the following.

Selecting the best mode

Select a proper PROGRAM AE mode referring to the following description.

A: Aperture priority mode
Selecting the aperture to determine the desired depth of field. Gain and the shutter speed are automatically set in combination with the aperture value to maintain appropriate exposure.

S: Shutter speed priority mode
Selecting the shutter speed manually. The exposure value changes in accordance with the selected shutter speed.

: Sports lesson mode
Capturing high-speed action in sports such as golf or tennis

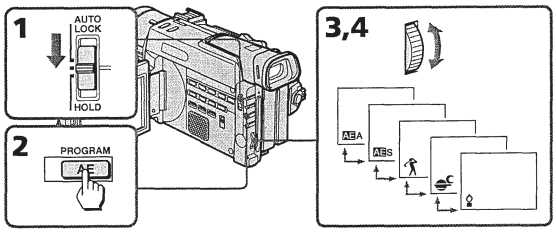
: Sunset & Moon mode
Recording sunset, night views, fireworks or neon signs

: Low lux mode
For recording a subject in insufficient light. Subject becomes bright.

Notes on focus setting
- In the Sports lesson mode, you cannot take close-ups because the camcorder is set to focus only on subjects in the middle to far distance.
- In the Sunset & Moon mode, the camcorder is set to focus only on distant subjects.

Using the PROGRAM AE function

(1) Set AUTO LOCK selector to the center (auto lock release) position while the camcorder is in Standby or Recording mode.
(2) Press PROGRAM AE.
(3) Turn the control dial so that the symbol of the desired PROGRAM AE mode matches the indicator on the LCD screen or in the viewfinder.
When you select the aperture priority mode or the shutter speed priority mode, press the control dial.
(4) In aperture priority mode (A) or shutter speed priority mode (S), turn the control dial to select the desired aperture value (F value) or shutter speed.
Aperture priority mode:
Turn the control dial to select the desired aperture value. As you turn the dial, the F value changes between F1.6 and F11.
For a smaller aperture, select a higher value. Gain and the shutter speed change in accordance with the selected aperture value.
Shutter speed priority mode:
Turn the control dial to select the desired shutter speed. As you turn the dial, shutter speed changes between 1/60 and 1/10000 (DSR-PD100) or 1/50 and 1/10000 (DSR-PD100P).
For a faster shutter speed, select a smaller value indicator on the LCD screen or in the viewfinder. The gain and aperture values change in accordance with the selected shutter speed.



To return to automatic adjustment mode
Set AUTO LOCK selector to AUTO LOCK or press PROGRAM AE so that the indicator disappears.

When you focus in telephoto
You cannot choose F1.6, F2 and F2.4.

About the depth of field
The depth of field is the in-focus range, measured from the distance behind a subject to the distance in front. The depth of field can vary with the iris (F value) and the focal length. Lowering the F value (large iris) reduces the depth of field. Raising the F value (small iris) provides a larger depth of field. Zooming in telephoto position offers a smaller depth of field while the depth of field in wide-angle position is greater.

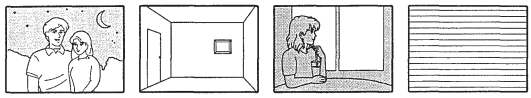
The depth of field	Shallow	Deep
Iris	Open (Low F value)	Close (High F value)
Zoom	Telephoto (T)	Wide (W)

Focusing manually

When to use manual focus

In the following cases you should obtain better results by adjusting the focus manually.

[a] [b] [c] [d]



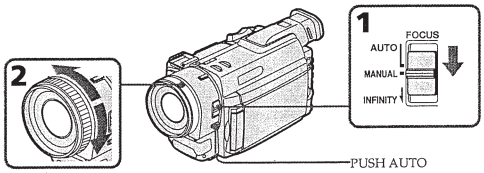
- Insufficient light **[a]**
- Subjects with little contrast — walls, sky, etc. **[b]**
- Too much brightness behind the subject **[c]**
- Horizontal stripes **[d]**
- Subjects through frosted glass
- Subjects beyond nets, etc.
- Bright subject or subject reflecting light
- Shooting a stationary subject when using a tripod

Adjusting focus manually

When focusing manually, first focus in telephoto before recording, and then reset the shot length.

(1) Slide FOCUS down to MANUAL. The ☞ indicator appears on the LCD screen or in the viewfinder.

(2) Turn the focus ring to focus on the subject.



To focus in infinity

Slide FOCUS to INFINITY. ▲▲ indicator appears on the LCD screen or in the viewfinder. This function is useful when the nearer subject is focused automatically, and you want to focus on a faraway subject.

To shoot with auto focusing momentarily

Press PUSH AUTO.
The auto focus functions while you are pressing PUSH AUTO.
Use this button to focus on one subject and then another with smooth focusing.
When you release PUSH AUTO, manual focusing resumes.

To return to the autofocus mode

Slide FOCUS up to AUTO to turn off ☞ or ▲▲ indicator.

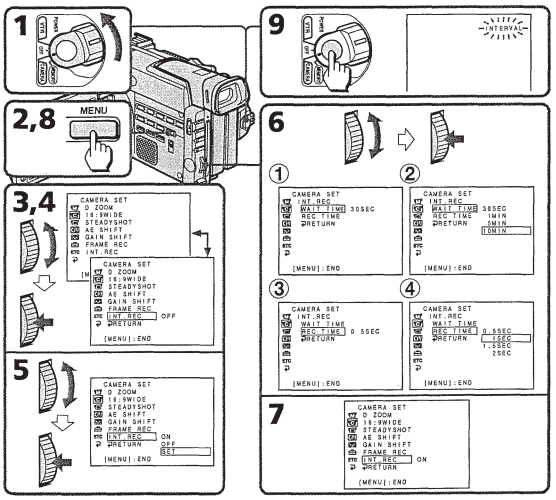
To shoot in relatively dark places or to shoot the subject moving quickly outside
Shoot at wide-angle after focusing in the telephoto position.

If ♣ lights up
Subject is too close.

Interval recording

You can make a time-lapse recording by setting the camcorder to automatically record and standby sequentially. You can achieve an excellent recording for flowering, emergence, etc., with this function.

(1) Set the POWER switch to CAMERA.
(2) Press MENU to display the menu.
(3) Turn the control dial to select 📷, then press the dial.
(4) Turn the control dial to select INT.REC, then press the dial.
(5) Turn the control dial to select SET, then press the dial.
(6) Set WAIT TIME and REC TIME.
① Turn the control dial to select WAIT TIME, then press the dial.
② Turn the control dial to select the desired waiting time, then press the dial.
The time: 30SEC ⟷ 1MIN ⟷ 5MIN ⟷ 10MIN.
③ Turn the control dial to select REC TIME, then press the dial.
④ Turn the control dial to select the desired recording time, then press the dial.
The time: 0.5SEC ⟷ 1SEC ⟷ 1.5SEC ⟷ 2SEC.
⑤ Turn the control dial to select ⮌ RETURN, then press the dial.
(7) Turn the control dial to select ON, then press the dial.
(8) Press MENU to erase the menu display. The interval recording indicator flashes.
(9) Press START/STOP to start interval recording. The interval recording indicator lights up.



To cancel the interval recording

- Set INT.REC to OFF in the menu system.
- Set the POWER switch to OFF, VTR or MEMORY.

To stop the interval recording momentarily and perform normal recording

Press START/STOP. You can perform the normal recording only once. To cancel the normal recording, press START/STOP again.

During the interval recording mode
The INTERVAL indicator appears.

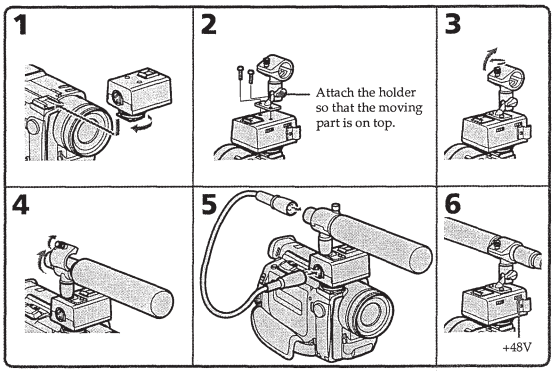
Notes on interval recording

- You cannot do interval recording with photo recording.
- You cannot perform interval recording in the MEMORY mode.
- There may be a discrepancy in recording time of up to +/– 6 frames from the selected time.

Connecting the external microphone with the XLR connector

When using the ECM-670 external microphone (not supplied), attach the CAC-12 microphone holder and supplied XLR adaptor.

(1) Attach the XLR adaptor to the accessory shoe on the camcorder and tighten the screw of the XLR adaptor.
(2) Attach the microphone holder with the supplied screws.
(3) Loosen the microphone holder screw and open the cover.
(4) Place the microphone into the holder, close the cover, and tighten the screw.
(5) Connect the microphone to the MIC IN connector on the XLR adaptor, using a microphone cable (not supplied).
(6) Set the +48V switch to ON.

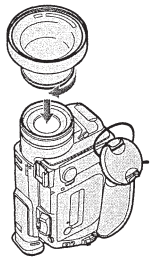


Notes

- When you use a wind screen other than the one supplied with ECM-670, make sure that the wind screen does not appear on the screen, using an underscan monitor.
- By setting the ATT switch to ON, you can reduce unnecessary noise by about 20 dB.
- When detaching the microphone cable, do so while holding the PUSH button down.
- When detaching the XLR adaptor, do so after having loosened the screw of the XLR adaptor.

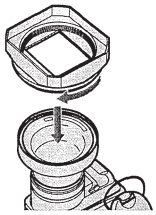
Attaching the supplied wide conversion lens

Hold the camcorder with its lens pointing upward. Align the groove on the wide conversion lens with the protruding part on the camcorder lens, then turn the ring in the direction of the arrow.



Attaching the wide conversion lens hood

Align the groove on the wide conversion lens hood with the protruding part on the wide conversion lens, then turn the ring in the direction of the arrow.



Note on the wide conversion lens

When the wide conversion lens is attached to the camcorder, the Steady Shot function may not be fully effective.

To attach the wide conversion lens securely

Turn the ring of the lens while lightly pressing the wide conversion lens down on the camcorder.

Note on the wide conversion lens hood

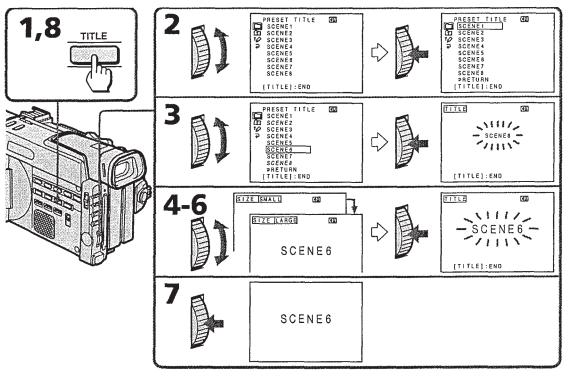
When the hood is attached to the wide conversion lens, you cannot attach a filter, etc. If you need to use a filter, detach the hood before attaching the filter.

Superimposing a title

If you use a tape with cassette memory, you can superimpose the titles while recording or after recording. When you play back the tape, the title is displayed for five seconds from the point where you superimposed it.
You can select from eight preset titles and two original (CUSTOM TITLE) to superimpose over the picture.

Superimposing titles

(1) Press TITLE to display the title menu.
(2) Turn the control dial to select 🗀, then press the dial.
(3) Turn the control dial to select the desired title, then press the dial. The titles are displayed.
(4) Turn the control dial to select the color, size, or position, then press the dial.
(5) Turn the control dial to select the desired item, then press the dial.
(6) Repeat steps 4 and 5 until the title is arranged as desired.
(7) Press the control dial again to complete the setting.
(8) When you want to stop recording the title, press TITLE.



To superimpose the title from beginning

After step 7, press START/STOP to start recording.

To superimpose the title while you are recording

After pressing START/STOP to start recording, start from step 1. In this case, beep or melody is not heard.

To use the custom title

When you want to use the custom title, select 🗀 in step 2.

Superimposing a title

Notes on superimposing a title

- If you have not given any custom title, "– – – – ..." appears on the display.
- The FADER function works while the title is displayed, however, the title does not fade.
- If you display the menu or title menu while superimposing a title, the title is not recorded while the menu or title menu is being displayed.

Title color changes as follows:

WHITE ⟷ YELLOW ⟷ VIOLET ⟷ RED ⟷ CYAN ⟷ GREEN ⟷ BLUE

Title size changes as follows:

SMALL ⟷ LARGE

Title position changes as follows:

When you select the title size "SMALL," you can choose 9 positions. When you select the title size "LARGE" you can choose 8 positions.

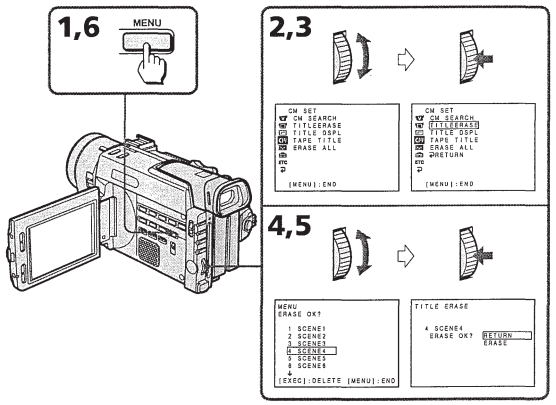
Notes on the title

- Depending on size or position of the title, both of date and time or either of them is not displayed.
- If you input 13 characters or more for a LARGE title, the title is automatically reduced into a SMALL size after the position is set.
- When the title is displayed, LCD BRIGHT and microphone level indicators do not appear.
- Normally, you can register up to 20 titles, each of which consists of about 5 characters, in the cassette memory. In case the cassette memory has already stored dates, photo data, and a cassette label to its full capacity, you can register up to 11 titles in it. A cassette can store up to 6 dates, 12 photo data, and one cassette label in its memory.

Superimposing a title

Erasing a title

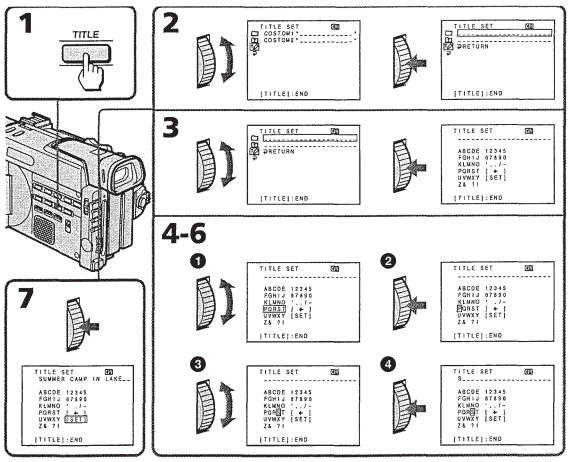
(1) Press MENU to display the menu.
(2) Turn the control dial to select CAM, then press the dial.
(3) Turn the control dial to select TITLEERASE, then press the dial.
(4) Turn the control dial to select the title you want to erase, then press the dial.
(5) Make sure the title is the one you want to erase, then press the control dial again.
(6) Press MENU to erase the menu display.



Note
If you use a cassette tape set to prevent accidental erasure, you cannot erase the title. Slide the protect tab so that the red portion is not visible.

Making a custom title

If you use a tape with cassette memory, you can make up to two titles and store them in the camcorder. We recommend you to set the POWER switch to VTR or eject the cassette before you begin.
Your title can have up to 20 characters.
(1) Press TITLE to display the title menu.
(2) Turn the control dial to select ✎, then press the dial.
(3) Turn the control dial to select the first line (CUSTOM1) or second line (CUSTOM2), then press the dial.
(4) Turn the control dial to select the column of the desired character, then press the dial.
(5) Turn the control dial to select the desired character, then press the dial.
(6) Repeat steps 4 and 5 until you finish the title.
(7) To finish the titling work, turn the control dial to select [SET], then press the dial.



Making a custom title

To edit a title you have stored

In step 3, select CUSTOM1 or CUSTOM2, depending on which title you want to edit, then change the title.

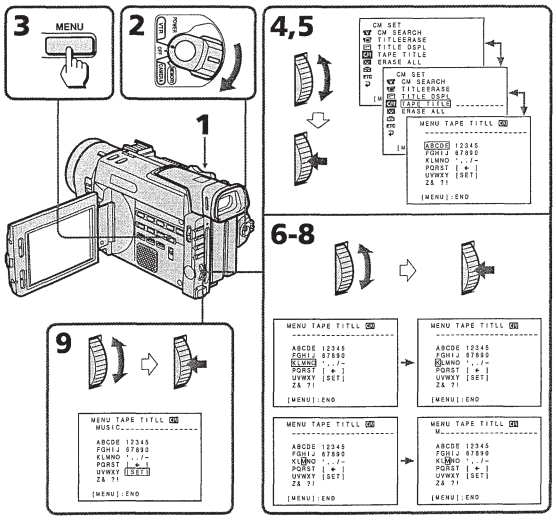
If you take 5 minutes or longer to enter characters while a cassette is in the camcorder
The power goes off automatically. Characters you have entered remain. Set the POWER switch to OFF once, then to CAMERA, then proceed from step 1.

To erase a character

In step 4, turn the control dial to select [←] then press the dial. The last character is erased. Repeat this step until all characters are deleted.

Labeling a cassette

If you use a tape with cassette memory, you can label a cassette. The label can consist of up to 10 characters and is stored in cassette memory. When you insert the labeled cassette and turn the power on, the label is displayed on the LCD screen, in the viewfinder, or on the TV screen.
(1) Insert the cassette you want to label.
(2) Set the POWER switch to VTR.
(3) Press MENU to display the menu.
(4) Turn the control dial to select CAM, then press the dial.
(5) Turn the control dial to select TAPE TITLE, then press the dial.
(6) Turn the control dial to select the column of the desired character, then press the dial.
(7) Turn the control dial to select the desired character, then press the dial.
(8) Repeat steps 6 and 7 until you finish the label.
(9) Turn the control dial to select [SET], then press the dial.



Labeling a cassette

To erase a character
In step 6 turn the control dial to select [←], then press the dial. The last character is erased.

To change the label you have made
Insert the cassette to change the label, and operate in the same way to make a new label.

If the mark appears in step 5
The cassette memory is full. If you erase the title in the cassette, you can label it.

If you have superimposed titles in the cassette
When the label is displayed, up to 4 titles also appear.

Note on "-----" indicator displayed on the LCD screen or in the viewfinder
The "-----" indicates the number of characters you can select for the label. When the "-----" indicator has fewer than 10 spaces, the cassette memory is full.

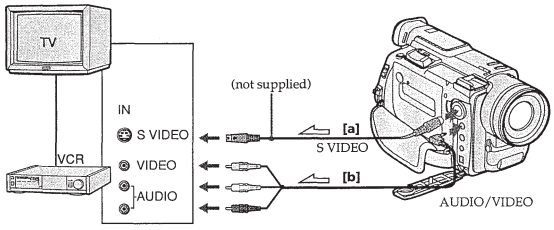
Note on the cassettes
If you use a cassette tape set to prevent accidental erasure, you cannot label it. Slide the protect tab so that the red portion is not visible.

Watching on a TV screen

Connect the camcorder to your TV or VCR to watch the playback picture on the TV screen. When monitoring the playback picture by connecting the camcorder to your TV, we recommend you to use house current (mains) for the power source.

Connecting directly to a TV or VCR with Audio/Video input jacks

Open the jack cover and connect the camcorder to the inputs on the TV by using the supplied A/V connecting cable. Set the TV/VCR selector on the TV to VCR.
Turn down the volume of the camcorder.
To get higher quality pictures in DVCAM format, connect the camcorder to your TV using the S video connecting cable (not supplied).
If you are going to connect the camcorder using the S video connecting cable (not supplied) **[a]**, you do not need to connect the yellow (video) plug of the A/V connecting cable **[b]**.



: Signal flow

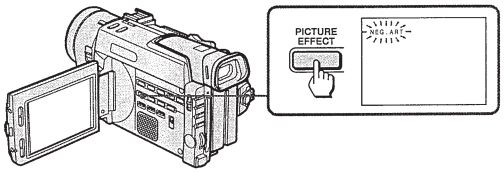
If your VCR or TV is a monaural type
Connect only the white plug for audio on both the camcorder and the VCR or the TV. If you connect the white plug, the sound is L (left) signal. If you connect the red plug, the sound is R (right) signal.

When you adjust the TV screen
Set COLOR BAR (COLOUR BAR) to ON in the menu system. The color bar is displayed on the TV screen.

Viewing the picture with the picture effect

You can play back recorded images with the picture effect. The available picture effects are NEG. ART, SEPIA, B&W and SOLARIZE.

During playback, press PICTURE EFFECT.
See page 40 for details on the picture effect.



To return to normal mode
Press PICTURE EFFECT so that the indicator disappears.

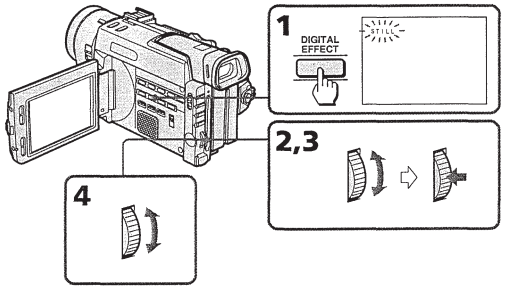
If you turn the power off or stop playing back
The picture effect is automatically canceled.

The picture you apply picture effects to
The picture with the picture effect is not output through the i.LINK DV IN/OUT jack.

Viewing the picture with the digital effect

You can play back recorded images with the digital effect.
The available digital effects are STILL, FLASH, LUMI. and TRAIL.

(1) During playback, press DIGITAL EFFECT.
(2) Turn the control dial to select the desired digital effect mode.
(3) Press the control dial. The digital effect indicator lights up and the bars appear. The still picture is stored in memory in the STILL or LUMI. mode.
(4) Turn the control dial to adjust the effects.
See page 42 for details on the digital effect.



To return to normal mode
Press DIGITAL EFFECT so that the indicator disappears.

If you turn the power off or stop playing back
The digital effect is automatically canceled.

The picture you apply digital effects to
The picture with the digital effect is not output through the i.LINK DV IN/OUT jack.

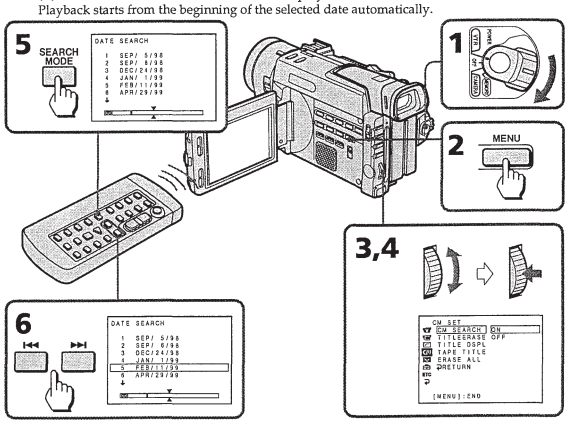
Searching the boundaries of recorded tape with date – date search

You can search for the boundaries of recorded tape with date – Date Search function. To search the beginning of the specific date and play back from the point, there are two ways:
- Using cassette memory, you can select the date displayed on the LCD screen.
- Without using cassette memory.

You can only operate with the Remote Commander.

Searching for the date by using cassette memory

You can use this function only when playing back a tape with cassette memory (p. 116).
(1) Set the POWER switch to VTR.
(2) Press MENU to display the menu.
(3) Turn the control dial to select CM SEARCH in CM, then press the dial.
(4) Turn the control dial to select ON, then press the dial.
(5) Press SEARCH MODE on the Remote Commander repeatedly, until the date search indicator appears.
(6) Press ⏮ or ⏭ to select the date for playback.
Playback starts from the beginning of the selected date automatically.

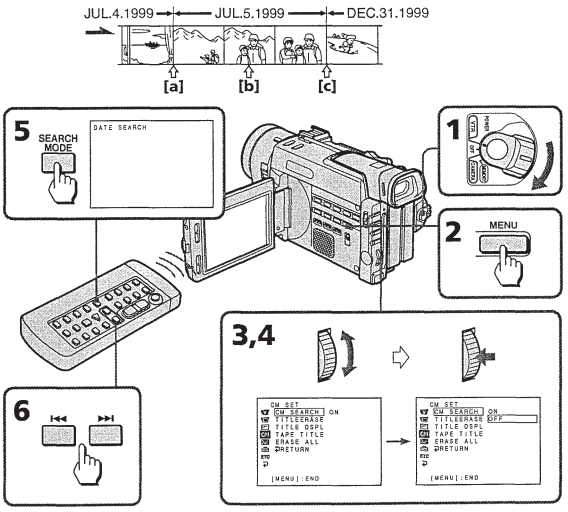


To stop searching
Press ■.

Notes
- The interval of the boundaries between the dates needs more than two minutes. The camcorder may not search if the beginning of the recorded date is too close to the next one.
- The black cursor on the screen indicates the date that was selected previously.
- If a tape has a blank portion in the beginning or between recorded portions, the date search function will not work correctly.
- Up to six date data can be stored in a cassette memory.

Searching for the date without using cassette memory

If you use the tape without cassette memory, skip steps 3 and 4.
(1) Set the POWER switch to VTR.
(2) Press MENU to display the menu.
(3) Turn the control dial to select CM SEARCH in CM, then press the dial.
(4) Turn the control dial to select OFF, then press the dial.
(5) Press SEARCH MODE on the Remote Commander repeatedly, until the date search indicator appears.
(6) When the current position is **[b]**, press ⏮ to search towards **[a]** or press ⏭ to search towards **[c]**. Each time you press ⏮ or ⏭, the camcorder searches for the previous or next date.
Playback starts automatically when date changed.



To stop searching
Press ■.

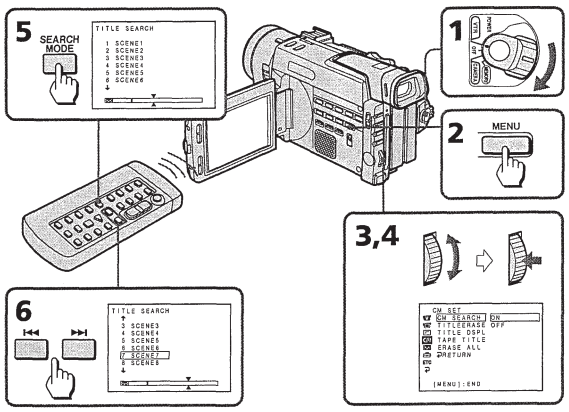
Searching the boundaries of recorded tape with title – title search

You can search for the boundaries of recorded tape with title – Title Search function. If you use a tape with cassette memory, you can select the title displayed on the LCD screen.

You can only operate with the Remote Commander.

Searching for the title by using cassette memory

You can use this function only when playing back a tape with cassette memory (p. 116).
(1) Set the POWER switch to VTR.
(2) Press MENU to display the menu.
(3) Turn the control dial to select CM SEARCH in CM, then press the dial.
(4) Turn the control dial to select ON, then press the dial.
(5) Press SEARCH MODE on the Remote Commander repeatedly, until the title search indicator appears.
(6) Press ⏮ or ⏭ to select the title for playback.
Playback starts from the scene of the selected title automatically.



To stop searching
Press ■.

Notes
- You cannot superimpose or search a title, if you use a cassette tape without cassette memory.
- The camcorder may not search, if a tape has a blank portion in the between of the recorded portions.

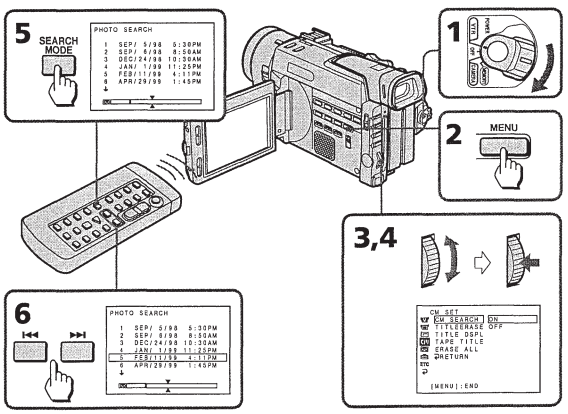
Searching for a photo – photo search/photo scan

You can search for the recorded still picture – Photo Search function. There are two modes in Photo Search:
- Using cassette memory, you can select the recorded date which is displayed on the LCD screen.
- Without using cassette memory.

You can also search for still pictures one after another and display each picture for five seconds automatically – Photo Scan function. Even if your tape has no cassette memory, you can use the Photo Scan function.
You can only operate with the Remote Commander.

Searching for a photo by using cassette memory – photo search

You can use this function only when playing back a tape with cassette memory (p. 116).
(1) Set the POWER switch to VTR.
(2) Press MENU to display the menu.
(3) Turn the control dial to select CM SEARCH in CM, then press the dial.
(4) Turn the control dial to select ON, then press the dial.
(5) Press SEARCH MODE on the Remote Commander repeatedly, until the photo search indicator appears.
(6) Press ⏮ or ⏭ to select the date for playback.
Playback starts from the photo of the selected date automatically.



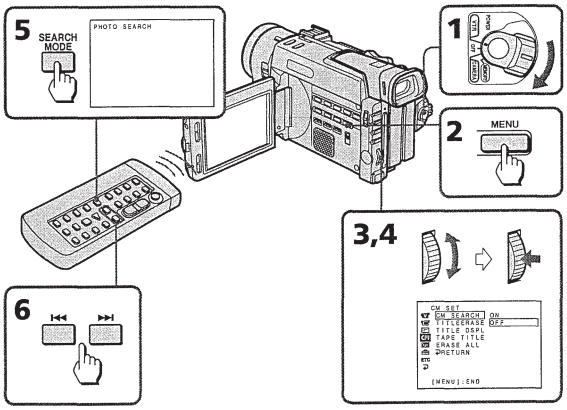
Searching for a photo – photo search/photo scan

To stop searching
Press ■.

Note
When you play back a tape which has a blank portion in the between of the recorded portions, the photo search function may not work correctly.

Searching for a photo without using cassette memory – photo search

If you use a tape without cassette memory, skip the steps 3 and 4.
(1) Set the POWER switch to VTR.
(2) Press MENU to display the menu.
(3) Turn the control dial to select CM SEARCH in CAM, then press the dial.
(4) Turn the control dial to OFF, then press the dial.
(5) Press SEARCH MODE on the Remote Commander repeatedly, until the photo search indicator appears.
(6) Press ⏮ or ⏭ to select the photo for playback. Each time you press ⏮ or ⏭, the camcorder searches for the previous or next scene.
Playback starts from the photo automatically.

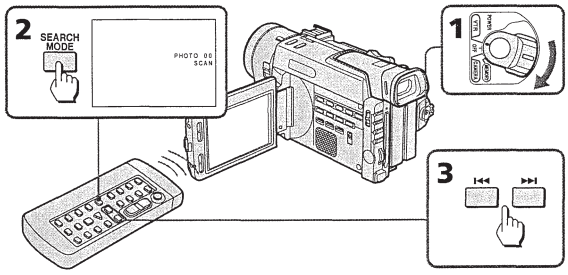


To stop searching
Press ■.

Searching for a photo – photo search/photo scan

Scanning photo – photo scan

You can use this function whether the tape has cassette memory or not.
(1) Set the POWER switch to VTR.
(2) Press SEARCH MODE on the Remote Commander repeatedly until the photo scan indicator displayed on the LCD screen.
(3) Press ⏮ or ⏭.
Each photo is displayed for about 5 seconds automatically.

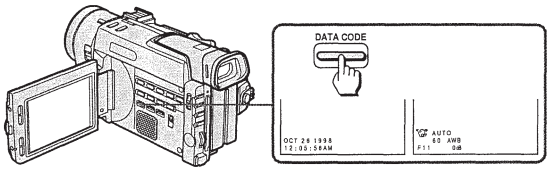


To stop scanning
Press ■.

Displaying recording data – data code function

You can display recording data (date/time or various settings when recorded) on the LCD screen or in the viewfinder during playback (Data Code). The Data Code is also displayed on the TV.

Press DATA CODE during playback.



To select the items to be displayed

Set DATA CODE in the menu system, and select the following items:
When DATE/CAM is selected: date → various settings (SteadyShot OFF, PROGRAM AE, shutter speed, white balance, aperture value, gain) → no indicator.
When DATE is selected: date → no indicator.

When you record a picture with adjusting the exposure to the darkest manually
"CLOSE" appears at the position of the iris indicator on the LCD screen or in the viewfinder.

When bars (-- -- --) appear
- A blank portion of the tape is being played back.
- The tape was recorded by a camcorder without having date and time set.
- The tape is unreadable due to tape damage or noise.

Note
The pictures taken with the memory card slot is not recorded with the camera data.

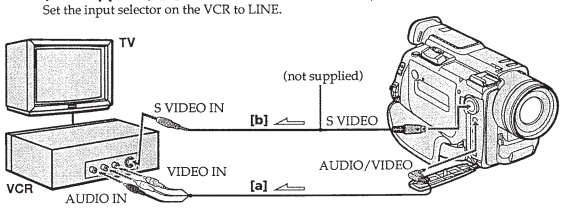
Editing onto another tape

You can create your own video program by editing with any other DVCAM, DVCAM, DV, mini DV, 8 mm, Hi8, Hi8, VHS, S-VHS, S-VHS, VHSC, S-VHSC, Betamax or ED Beta ED Betamax VCR that has audio/video inputs. You can edit with little deterioration of picture and sound quality when using the i.LINK cable (DV connecting cable).

Before editing

Connect the camcorder to the VCR using the supplied A/V connecting cable or the VMC-IL4415/IL4435/2DV/4DV i.LINK cable (DV connecting cable) (not supplied).

Using the A/V connecting cable [a] or S video connecting cable (not supplied) [b]
Set the input selector on the VCR to LINE.

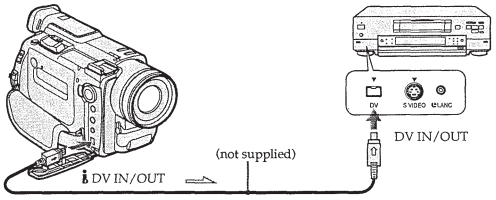


Notes on editing when using the A/V connecting cable
- Press DATA CODE, SEARCH MODE on the Remote Commander, or DISPLAY to turn off the display indicators. Otherwise, the indicators will be recorded on the tape.
- If your TV or VCR is a monaural type, connect the yellow plug of the A/V connecting cable for video to the TV or VCR. Connect only the white or red plug for audio to the TV or VCR. If you connect the white plug, the sound is L (left) signal. If you connect the red plug, the sound is R (right) signal.
- You can edit precisely by connecting a LANC cable to this camcorder and other video equipment having fine synchro-editing function, using this camcorder as a player.

Editing onto another tape

Using the i.LINK cable (DV connecting cable)

Simply connect the VMC-IL4415/IL4435/2DV/4DV i.LINK cable (DV connecting cable) (not supplied) to i DV IN/OUT and to DV IN/OUT of the DV products. With digital-to-digital connection, video and audio signals are transmitted in digital form for high-quality editing.



Notes on editing when using the i.LINK cable (DV connecting cable)

- You can connect one VCR only.
- You can record picture, sound and system data at the same time on the DV products by using the i.LINK cable (DV connecting cable) only.
- You cannot edit the titles, display indicator or the contents of cassette memory.
- If you record playback pause picture with the i DV IN/OUT jack, the recorded picture becomes rough. And when you play back the picture using the other video equipment, the picture may jitter.
- You can also use the camcorder as a recorder with this connection. In this case "DV IN" indicator appears on the screen.
- When you use the camcorder as a recorder, the color balance may be incorrect on the monitor screen. But this is not recorded on the tape.

To perform a more precise editing

Use DV synchro-editing function (see page 82).

Starting editing

(1) Insert a blank tape (or a tape you want to record over) into the VCR, and insert your recorded tape into the camcorder.

(2) Play back the recorded tape on the camcorder until you locate the point where you want to start editing, then press II to set the camcorder in playback pause mode.

(3) On the VCR, locate the recording start point and set the VCR in recording pause mode.

(4) Press II on the camcorder and VCR simultaneously to start editing.

To edit more scenes

Repeat steps 2 to 4.

To stop editing

Press □ on both the camcorder and the VCR.

Editing partially on a mini DVCAM tape – DV synchro-editing

By simply selecting the scenes to edit, you can duplicate the desired portion on a tape, using other equipment connected with an i.LINK cable (DV connecting cable). The scenes can be selected by frame. Since the camcorder exchanges digital signals, you can edit with little audio and video deterioration.

You cannot duplicate titles, display indicators or the contents of cassette memory.

The connection is the same as on page 81.

(1) Insert a recorded tape into the camcorder and insert a blank tape into the DVCAM product.

(2) Set the POWER switch of the camcorder to VTR.

(3) Set the input selector to DV input on the DVCAM product. If the DVCAM product is another DVCAM camcorder, set its POWER switch to VTR.

(4) Press MENU to display the menu.

(5) Turn the control dial to select ETC, then press the dial.

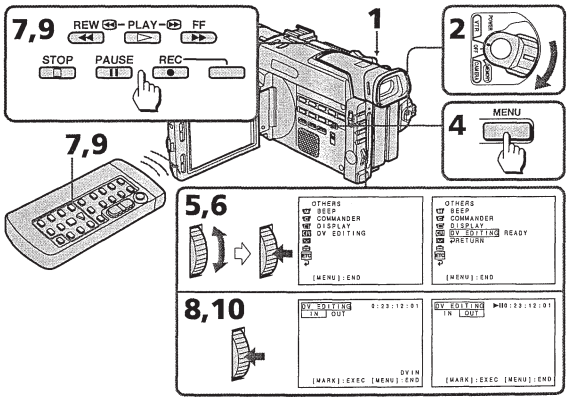
(6) Turn the control dial to select DV EDITING, then press the dial.

(7) Using the tape transport buttons, locate the point where you want to start editing, then press II to set the camcorder in playback pause mode.

(8) Press the control dial or MARK on the Remote Commander to set DV EDITING IN.

(9) Using the tape transport buttons, locate the point where you want to end editing, then press II to set the camcorder in playback pause mode.

(10) Press the control dial or MARK on the Remote Commander to set DV EDITING OUT. The editing process starts. When the camcorder and the DVCAM product automatically set to pause mode.



Editing partially on a mini DVCAM tape – DV synchro-editing

Notes

- If you use other than Sony DVCAM equipment, the synchronization may become less precise or the unit may not function properly.
- You cannot set DV EDITING IN or OUT on a blank portion of the tape.

Errors in duplicating

If you connect this camcorder to Sony equipment with DV jack, the range of errors is within +/– 5 frames. The range may become wider in the following conditions.

- The interval between DV EDITING IN and OUT is less than five seconds.
- DV EDITING IN is set at the beginning of the tape.
- DV synchro-editing is performed repeatedly.

If you do not make connections with i.LINK cable (DV connecting cable)

The screen shows NOT READY, and you cannot select DV EDITING.

Recording from a VCR or TV

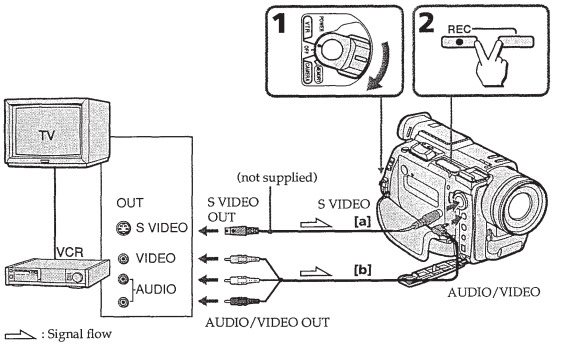
You can record a tape from another VCR or a TV program from a TV that has audio/video outputs. Connect the camcorder to the VCR or TV.

(1) Set the POWER switch to VTR and set DISPLAY to LCD in the menu system.

(2) Press ● REC and the button on the right together at the point where you want to start recording.

In recording and the recording pause mode, S VIDEOand AUDIO/VIDEO jacks automatically work as input jacks.

If your VCR or TV has an S video jack, connect using the S video cable (not supplied) **[a]** to obtain a high quality picture.



If your TV or VCR is a monaural type, connect the yellow plug of the A/V connecting cable for video to the TV or VCR. Connect only the white or red plug for audio to the TV or VCR. If you connect the white plug, the sound is L (left) signal. If you connect the red plug, the sound is R (right) signal.

If you are going to connect the camcorder using the S video cable (not supplied) **[a]**, you do not need to connect the yellow (video) plug of the A/V connecting cable **[b]** .

Notes

- If the S video plug is not provided on your TV or VCR, do not connect the S video cable (not supplied) to the camcorder. Pictures will not appear.
- The dual sound cannot be recorded in this camcorder.
- If you fast-forward or slow-playback on the other equipment, the image being recorded may turn black and white. When recording from other equipment, be sure to play back the original tape at normal speed.

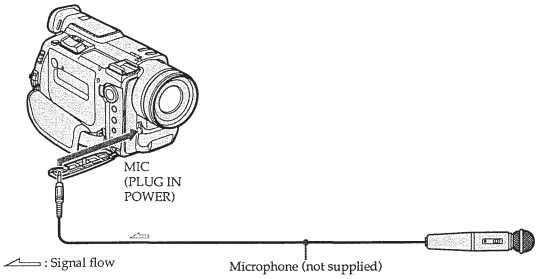
To stop recording

Press □.

Audio dubbing

You can record an audio sound to add to the original sound on a tape by connecting audio equipment or a microphone. If you connect the audio equipment, you can add sound to your recorded tape by specifying the starting and ending points. The original sound will not be erased.
You can only operate with the Remote Commander.

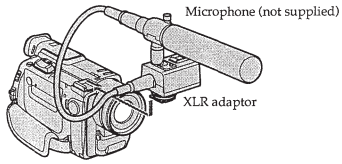
Connecting the microphone with the MIC jack



Note
You can check the recorded picture and sound by connecting the AUDIO/VIDEO jack to a TV.
The recorded sound is not output from a speaker. Check the sound by using the TV or headphones.

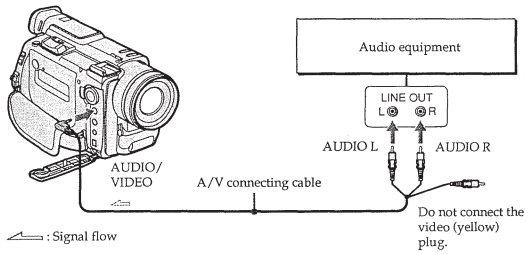
Connecting the microphone with the intelligent accessory shoe using the XLR adaptor

Connection is the same as shown in p. 61.



Note
You can check the recorded picture and sound by connecting the AUDIO/VIDEO jack to a TV.
The recorded sound is not output from a speaker. Check the sound by using the TV or headphones.

Dubbing with the AUDIO/VIDEO jack



Note
The picture is not output from the AUDIO/VIDEO jack. Check the recorded picture on the LCD screen or in the viewfinder, as well as check the recorded sound by using a speaker or headphones.

Dubbing with the built-in microphones

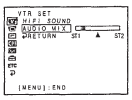
No connection is necessary.

Adding an audio sound on a recorded tape

(1) Insert your recorded tape into the camcorder.
(2) Set the POWER switch to VTR.
(3) On the camcorder, locate the point where the recording should begin by pressing ◄◄ or ►►. Then press II to set it to playback pause mode.
(4) Press AUDIO DUB on the Remote Commander .
(5) Press II on the Remote Commander and at the same time start playing back the audio you want to record.
(6) Press ■ on the Remote Commander at the point where you want to stop recording.

To play back the new recorded sound

Adjust the balance between the original sound (ST1) and the new sound (ST2) by selecting AUDIO MIX in the menu system.



Five minutes after when you disconnect the power source or remove the battery pack, the setting of AUDIO MIX returns to the original sound (ST1) only. The factory setting is original sound only.

If you make all the connections
The audio input to be recorded will take precedence over others in the following order.
- MIC (PLUG IN POWER) jack
- Intelligent accessory shoe
- AUDIO/VIDEO jack
- Built-in microphone

If an i.LINK cable (DV connecting cable) is connected to this unit
You cannot add a sound to a recorded tape.

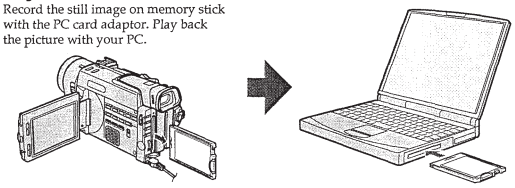
If you disconnect or connect a cable to the camcorder during recording
The recording may stop.

Notes on audio dubbing
- A new sound cannot be recorded on a tape already recorded in the FS48K (16-bit) mode (32 kHz, 44.1 kHz or 48 kHz).
- When an external microphone is not connected, the recording will be made through the built-in microphone of the camcorder.
- If you add a new sound on a tape recorded with another camcorder (including DSR-PD100/PD100P), the sound quality may become worse.
- You cannot add audio with the i.LINK DV IN/OUT jack.

Using the memory card slot – introduction

This camcorder is equipped with a memory card slot that conforms to ATA specification of PC Card standard.
You can record still images to memory sticks using the supplied PC card adaptor or to PC cards (not supplied). You can exchange image data with other equipment such as personal computers etc., using memory sticks or PC cards.

Image
Record the still image on memory stick with the PC card adaptor. Play back the picture with your PC.

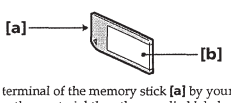


About memory stick and PC card adaptor

The memory stick is a brand new type of recording medium that records images and sounds as digital data and operates just like a PC card.

Memory Stick is the registered trademark of Sony Corporation.

Precautions



- Do not touch the terminal of the memory stick **[a]** by your hand or a metal object.
- Do not attach any other material than the supplied label on the label space of the memory stick **[b]**.
- Keep dust or extraneous matter out of the connector and memory stick slot of the PC card adaptor.
- Do not strike, bend, or drop the memory stick or PC card adaptor.
- Do not disassemble or convert the memory stick or PC card adaptor.
- Do not wet the memory stick or PC card adaptor.
- Do not use or store the memory stick or PC card adaptor in the following areas:
  - Hot locations such as the inside of a car or the outdoors under hot weather.
  - Locations exposed to direct sunlight.
  - Humid or corrosive locations.
- Carry or store the memory stick or PC card adaptor in its supplied case.

For proper operation
- Setting the write-protect switch to "LOCK" disables you to record or delete data.
- We recommend that you make a backup copy of important data.
- Do not remove the memory stick while reading or writing data.
- Recorded data may be lost or damaged in the following situations:
  - When you remove the memory stick or PC card adaptor or turn off the camcorder while reading or writing data.
  - When you use the memory stick or PC card adaptor in the locations subject to static electricity or electrical noise.

Data file names of image
Example: MVC00001.jpg

On file format (JPEG)
This unit compresses image data in JPEG format (extension .jpg) and simultaneously records thumbnail data for the index screen. The index screen data is varies only on this unit.

The types of PC cards you can use

Use TYPE II PC cards that conform to ATA specification of PC card standard. Format the PC card with this camcorder before use. Once you format the PC card, you can store data of up to 64 MB in it.

Compatible PC cards
HITACHI
HB286008A3, HB286015A3, HB286030A3, HB286045A3, HB286060A3
SANDISK
SDP3B-2-101-00, SDP3B-4-101-00, SDP3B-6-101-00, SDP3B-8-101-00, SDP3B-10-101-00, SDP3B-20-101-00, SDP3B-40-101-00
Be sure to refer to the instruction manual supplied with the PC card.

About the power source

When you use the memory card slot, getting the power from a wall outlet is recommended, using the AC power adaptor.

About the remaining battery indicator
This camcorder displays remaining recording/playback time on the LCD screen or in the viewfinder. This function may not work properly in certain operating conditions. Especially when using the memory card slot, the correct remaining time may not be indicated due to increased power consumption. This is not a malfunction.

Power supply
When using a video light (not supplied) or similar equipment connected to the intelligent accessory shoe of the camcorder, recording an image to a memory stick or PC card may result in a temporary power shortage in the accessory shoe, causing the video light to go out. This does not affect other functions.

When using a battery case
When using a battery case (not supplied) such as the EBP-L7, you cannot perform operations that require the PC card adaptor. The screen displays "FOR "InfoLITHIUM" BATTERY ONLY."

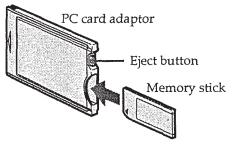
Note on playback compatibility

This camcorder is not guaranteed to properly play back images shot with other equipment. The images shot with this camcorder are not guaranteed to be played back properly with other equipment.

CAUTION
Do not insert your finger or an object into the memory card slot.

Inserting a memory stick into PC card adaptor

Insert a memory stick with its connector side facing down.
Before inserting, check that the write protect switch is not set to LOCK position for recording a still picture.

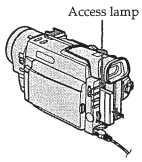


To eject the memory stick

Press the eject button.

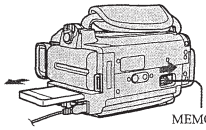
Inserting the PC card adaptor or PC card

With the upper side of the connector facing the LCD panel, insert the PC card adaptor or PC card until it clicks.



To eject the PC card adaptor or PC card

Slide the MEMORY RELEASE lever in the direction of the arrow as illustrated below.

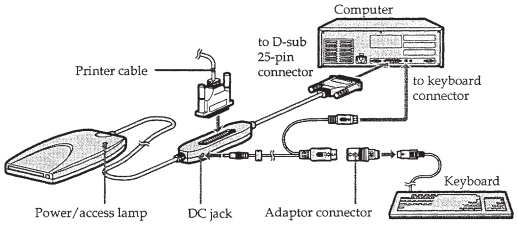


When the access lamp is flashing
Never shake or strike the unit. Do not turn the power off , eject a PC card adaptor/PC card or remove the battery pack. Otherwise, the image data breakdown may occur.

When the PC card adaptor or PC card does not come out
Remove the battery before ejecting the PC card adaptor/PC card.

Connecting the PC card/parallel port adaptor with your computer

To display images recorded on the memory stick or PC card on the computer monitor, connect the PC card/parallel port adaptor with your computer.
Turn off your computer, and then connect the parallel port adaptor with your computer as illustrated below.
Install the MSAC-PR1 device driver into your computer from the supplied CD-ROM. For details, refer to "READ ME" on the CD-ROM.



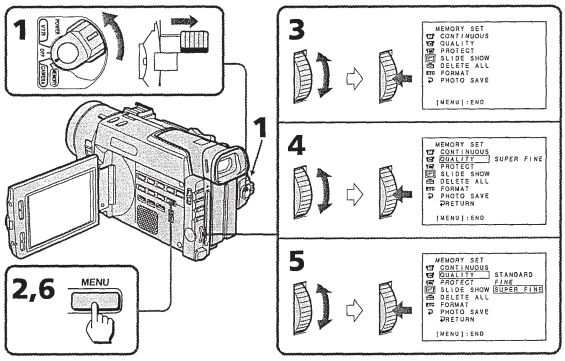
To eject the PC card/PC card adaptor
Press the eject button.

Notes on the connection
- Select the one from the two DIN connectors that matches the keyboard connector of the computer, and use this connector to connect the computer.
- When connecting the PC card/parallel port adaptor and the keyboard, make sure sizes of the DIN connector of the keyboard and power cord match, then use the adaptor connector to connect
- For notebook computers, there is no need to connect the keyboard.

Note on the power/access lamp
Do not insert/remove the PC card adaptor or memory stick when the power/access lamp is flashing; otherwise data on the memory stick or PC card may become damaged.

Selecting the image quality mode

You can select one of three image quality modes in still picture recording. If you do not make any selection, the unit automatically records in SUPER FINE mode.
(1) Set the POWER switch to MEMORY. Make sure that the lock knob is set to the right (unlock) position.
(2) Press MENU to display the menu.
(3) Turn the control dial to select , then press the dial.
(4) Turn the control dial to select QUALITY, then press the dial.
(5) Turn the control dial to select desired image quality, then press the dial.
(6) Press MENU to erase the menu display.



Setting image quality

Setting	Meaning
SUPER FINE (SFN)	This is the highest image quality in this camcorder. The number of still images you can record is less than FINE. The image is compressed to about 1/4.
FINE (FIN)	Use this mode when you want to record high quality images. The image is compressed to about 1/6.
STANDARD (STD)	This is the standard image quality. The image is compressed to about 1/10.

The difference in image quality mode
A recorded image is compressed in JPEG format before stored into memory. The memory capacity allotted to each image varies depending on the selected quality mode. Details are shown in the table below. (The number of pixel is 640 x 480, regardless of image quality mode. Data volume before compression is about 600 KB.)

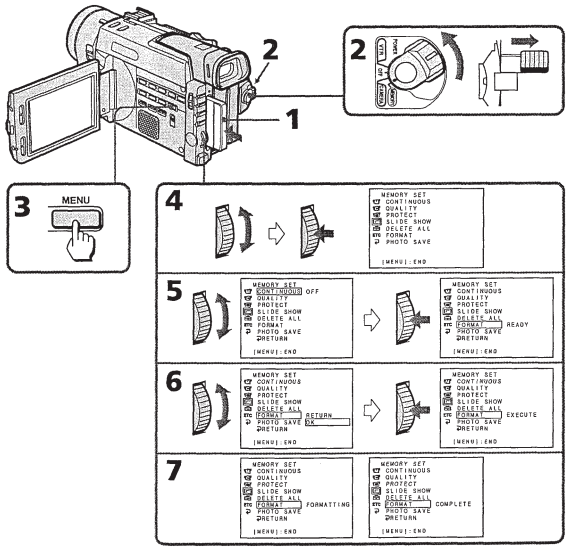
Image quality mode	Memory capacity
SUPER FINE	About 150 KB
FINE	About 100 KB
STANDARD	About 60 KB

Approximate numbers of images you can record on a memory stick (4 MB)
The number of images you can record is different depending on which image quality mode you select and the complexity of the subject.
SUPER FINE (SFN) about 20 to 22 images
FINE (FIN) about 39 to 44 images
STANDARD (STD) about 66 to 75 images

Note
In some cases, changing image quality mode may not affect the image quality, depending on the types of images you are shooting.

Formatting (initializing) a memory stick or a PC card

(1) When you format a memory stick, insert a PC card adaptor (with a memory stick inside) into the memory card slot. When you format a PC card, insert the card into the memory card slot.
(2) Set the POWER switch to MEMORY. Make sure that the lock knob is set to the right (unlock) position.
(3) Press MENU to display the menu.
(4) Turn the control dial to select , then press the dial.
(5) Turn the control dial to select FORMAT, then press the dial.
(6) Turn the control dial again to select OK, then press the dial. The display shows "EXECUTE," then press the dial again.
(7) The display shows "FORMATTING," and formatting procedure begins. When formatting is finished, the display shows "COMPLETE."



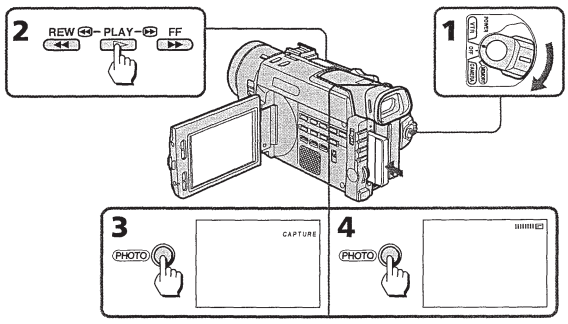
Notes on formatting
- Formatting erases all information on the memory stick or PC card, including the protected image data. Check the contents of the memory stick or PC card before formatting.
- Be sure that the battery is fully charged when formatting a memory stick or PC card. Formatting takes about three minutes maximum.
- Do not turn the POWER switch or press any button while the display shows "FORMATTING."

Recording an image from a mini DVCAM tape as a still image

This camcorder can read moving picture data recorded on a mini DVCAM tape and record it as a still image on a memory stick or a PC card. The unit can also take in moving picture data through the input connector and record it as a still image on a memory stick or a PC card.

Before operation
- Insert a recorded mini DVCAM tape.
- Insert the PC card adaptor (with a memory stick inside) or a PC card into the unit.

(1) Set the POWER switch to VTR.
(2) Press ▷. The picture recorded on the mini DVCAM tape is played back.
(3) Keep pressing PHOTO lightly until a picture from the mini DVCAM tape freezes. "CAPTURE" appears on the LCD screen or in the viewfinder. Recording does not start yet.
(4) Press PHOTO deeper. The image displayed on the screen will be recorded on a memory stick or a PC card. The recording is complete when the bar scroll indicator disappears.



When the access lamp is flashing
Never shake or strike the unit. As well do not turn the power off, eject a PC card adaptor/PC card or remove the battery pack. Otherwise, the image data breakdown may occur.

Recording an image from a mini DVCAM tape as a still image

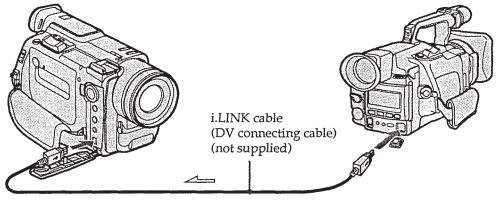
Recording a still image from a mini DVCAM tape right after turning on the power
Saving the data may take a little more time than usual. This is not a malfunction.

Sound recorded on a mini DVCAM tape
You cannot record the audio from a mini DVCAM tape.

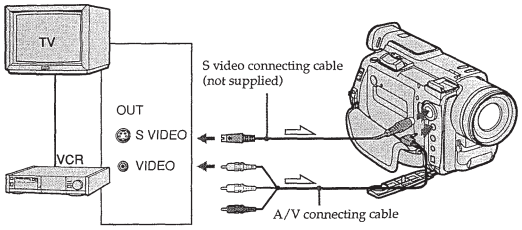
About titles recorded on the mini DVCAM tape
You cannot record titles. The title is not displayed during recording.

Recording a still image from other equipment

When recording the image through the i DV IN/OUT jack



When recording the image through the AUDIO/VIDEO jack



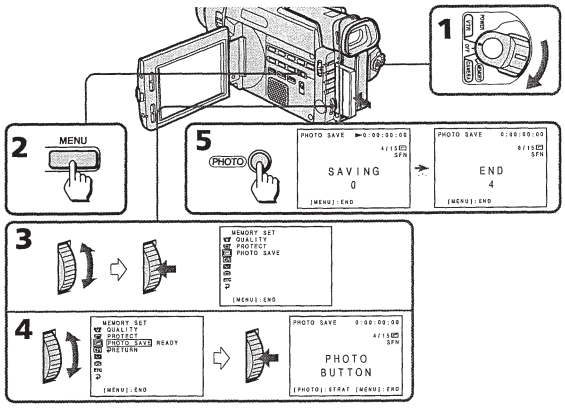
(1) Set the POWER switch to VTR and set DISPLAY to LCD in the menu system.
(2) Play back the recorded tape, or turn the TV on to see the desired program.
(3) Follow the steps 3 and 4 on page 96.

Copying still images from a mini DVCAM tape – photo save

Using the search function, you can automatically take in only the still images from mini DVCAM tapes and record them on a memory stick or a PC card in sequence.

Before operation
- Insert a recorded mini DVCAM tape and rewind the tape.
- Insert the PC card adaptor (with a memory stick inside) or a PC card to the unit.

(1) Set the POWER switch to VTR.
(2) Press MENU to display the menu.
(3) Turn the control dial to select , then press the dial.
(4) Turn the control dial to select PHOTO SAVE, then press the dial. "PHOTO BUTTON" appears on the LCD screen or in the viewfinder.
(5) Press PHOTO deeper. The still image from the mini DVCAM tape is recorded on a memory stick or PC card. The number of still images copied is displayed. "END" is displayed when copying is completed.



To cancel copying
Press MENU to stop copying.

When the memory of the memory stick or PC card is full
"MEMORY FULL" appears on the screen, and the copying stops. Insert another memory stick or PC card and repeat the procedure from step 1.

Copying still images from a mini DVCAM tape – photo save

When the access lamp is flashing
Never shake or strike the unit. As well do not turn the power off, eject a PC card adaptor/PC card or remove the battery pack. Otherwise, the image data breakdown may occur.

To record all the images recorded on the mini DVCAM tape
Rewind the tape all the way and start copying.

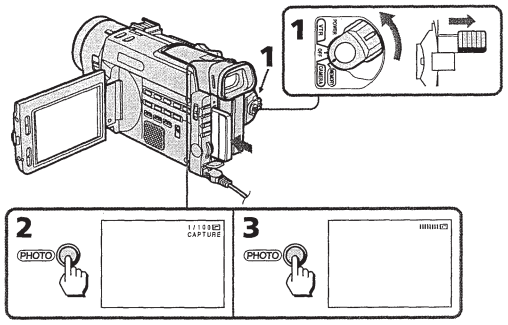
When you change memory sticks in the middle of copying
The unit resumes copying from the last image recorded on the previous memory stick.

Recording still images on memory sticks or PC cards – memory photo recording

You can record still images with all the pixels (progressive) on a memory stick or an optional PC card.

Before operation
Insert the PC card adaptor (with a memory stick inside) or a PC card to the unit.

(1) Set the POWER switch to MEMORY. Make sure that the lock knob is set to the right (unlock) position.
(2) Keep pressing PHOTO lightly. A picture freezes and "CAPTURE" appears on the LCD screen or in the viewfinder. Recording does not start yet.
(3) Press PHOTO deeper. The image displayed on the screen will be recorded on a memory stick or PC card. The recording is complete when the bar scroll indicator disappears.



When the POWER switch is set to MEMORY
The following functions do not work:
digital zoom (more than 12x), wide TV mode, digital effect, picture effect, title.

When you are recording a still image
You can neither turn off the power nor press PHOTO.

When you press the PHOTO button on the Remote Commander
The camcorder immediately records the image that is on the screen when you press the button.

When using a video light (not supplied) or similar equipment mounted on the intelligent accessory shoe
Recording an image on a memory stick or PC card may result in a temporary power shortage in the accessory shoe, causing the video light to go out. This is not a malfunction.

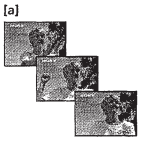
Recording images continuously

You can shoot continuously by selecting one of two modes described below.

Continuous mode [a]
You can record from 2 to 4 pictures continuously.

Multi screen mode [b]
You can record 9 still pictures continuously on a single page.

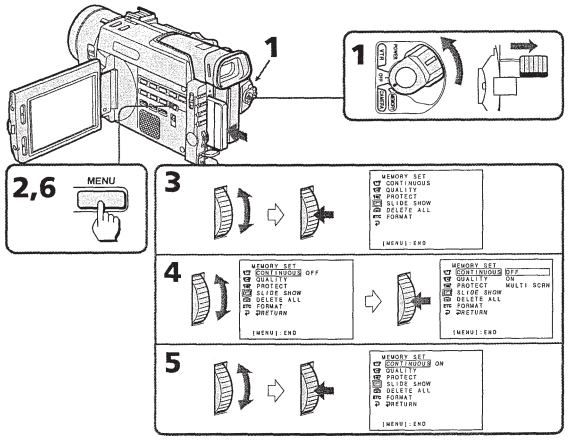
[a]



[b]

Note on the video flash light
You cannot use the video flash light (not supplied) during continuous or multi screen mode.

(1) Set the POWER switch to MEMORY. Make sure that the lock knob is set to the right (unlock) position.
(2) Press MENU to display the menu.
(3) Turn the control dial to select , then press the dial.
(4) Turn the control dial to select CONTINUOUS, then press the dial.
(5) Turn the control dial to select the desired setting, then press the dial.
(6) Press MENU to erase the menu display.



Settings of continuous shooting

Setting	Meaning (indicator on the screen)
OFF	The unit shoots one image at a time. (no indicator)
ON	The unit shoots 2 to 4 still images at about 0.8 sec intervals. ( )
MULTI SCRN	The unit shoots 9 still images at about 0.3 sec intervals and displays the images on a single page divided into 9 boxes. ( )

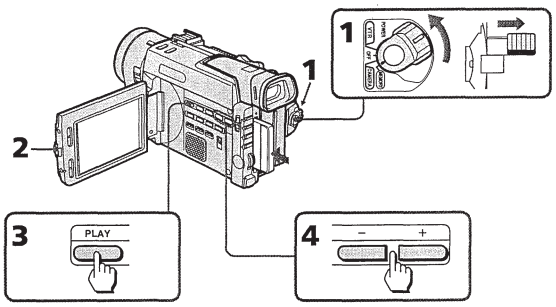
The number of images in continuous shooting
The number of images you can shoot continuously varies depending on the image quality mode.
SUPER FINE: 2 images
FINE: 3 images
STANDARD: 4 images

Viewing a still picture – memory photo playback

You can play back still images recorded on a memory stick or PC card. You can also play back 6 images at a time by selecting the index screen.

Before operation
Insert the PC card adaptor (with a memory stick inside) or a PC card to the unit.

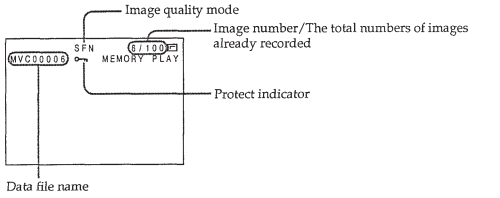
(1) Set the POWER switch to MEMORY. Make sure that the lock knob is set to the right (unlock) position.
(2) While pressing OPEN, open the LCD panel.
(3) Press MEMORY PLAY. The last recorded image is displayed.
(4) Press MEMORY +/– to select the desired still image. To see the previous image, press MEMORY –. To see the next image, press MEMORY +.



To stop memory photo playback
Press MEMORY PLAY again. Otherwise, the image through the lens will not appear on the screen.

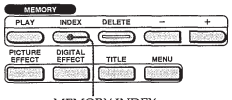
To play back recorded images on a TV screen
- Connect this camcorder to the TV with the supplied A/V connecting cable before operation.
- When operating memory photo playback on a TV or the LCD screen, the image quality may appear to have deteriorated. This is not a malfunction. The image data is as good as ever.
- Turn the audio volume of the TV down before operation, or there may be noise (howling) coming from the TV speakers.

Screen indicators during still image playback

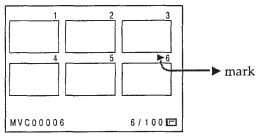


Playing back 6 recorded images at a time (index screen)

You can play back 6 recorded images at a time. This function is especially useful when searching for a particular image.



Press MEMORY INDEX.
A red ▶ mark appears above the image that is displayed before changing to index screen mode.



- To display the following 6 images, keep pressing MEMORY +.
- To display the previous 6 images, keep pressing MEMORY –.

To return to the normal playback screen (single screen)
Press MEMORY +/– to move the ▶ mark to the image you want to display on full screen, then press MEMORY PLAY.

Viewing a still picture – memory photo playback

Note
When displaying the index screen, the number appears above each image. This indicates the recording order on the memory stick or PC card. These numbers are different from the data file names.

Files modified with personal computers
Those files cannot be displayed on the index screen. Image files shot with other equipment cannot be displayed on the index screen either.

The image quality mode indicator
The indicator may show a different mode in which you recorded. This is not a malfunction. The indicator shows the volume of the data file. For instance, if the volume of SFN image is small enough, it may be displayed as FIN or STD.

Viewing the recorded images using a personal computer

The image data recorded with this camcorder is compressed in the JPEG format. If your personal computer has an application software that allows you to see JPEG images, you can see images recorded on a memory stick or PC card on a computer screen. For detailed instructions on operation, refer to the operating instruction supplied with the application software.

Examples of recommended OS/application software
OS
- Windows 95
- Windows NT3.51 or newer versions, etc.

Application
- Microsoft Internet Explorer, etc.

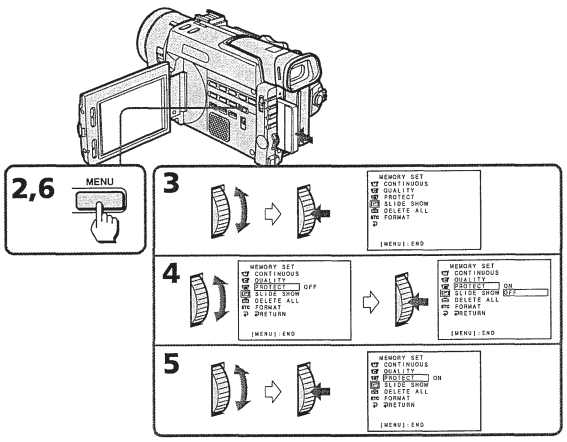
Notes
- For Macintosh, you can use the floppy disk recorded with this camcorder using the PC Exchange with Mac OS system 7.5 or higher. A viewing application for Macintosh is also necessary for viewing images.
- When you see images recorded with the camcorder on a personal computer, the display may show lines on the edge of the screen, depending on the status of video input signals at the moment. This is not a malfunction.

Preventing accidental erasure – PROTECT

To prevent accidental erasure of important images, you can protect selected images.

Before operation
Insert the PC card adaptor (with a memory stick inside) or a PC card to the unit.

(1) Display the image you want to protect.
(2) Press MENU to display the menu.
(3) Turn the control dial to select , then press the dial.
(4) Turn the control dial to select PROTECT, then press the dial.
(5) Turn the control dial to select ON, then press the dial.
(6) Press MENU to erase the menu. The "O-n" mark is displayed beside the data file name of the protected image.



To cancel protection of the image
Select OFF in step 5, then press the control dial.

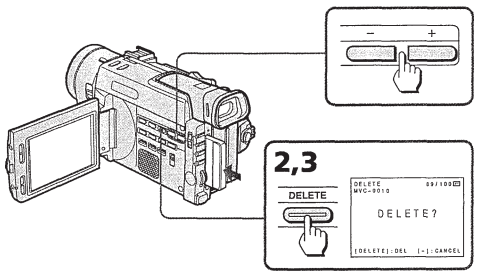
Note
Formatting erases all information on the memory stick or PC card, including the protected image data. Check the contents of the memory stick or PC card before formatting.

Deleting images

Deleting selected image

Before operation
Insert the PC card adaptor (with a memory stick inside) or a PC card to the unit.

(1) Display the image you want to erase.
(2) Press MEMORY DELETE. "DELETE?" appears on the LCD screen.
(3) Press MEMORY DELETE again. The selected image is deleted.



To cancel deleting an image
Press MEMORY – in step 3.

To delete an image displayed on the index screen
Press MEMORY +/– to move the ▶ indicator to the desired image and follow steps 2 and 3.

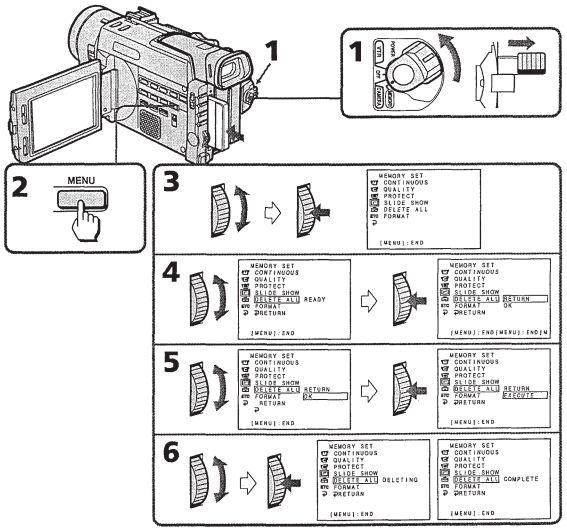
Notes
- To delete protected image, cancel their protection first.
- Once you delete an image, you cannot restore it. Check the images to delete carefully before deleting them.

Erasing all the images

You can delete all the unprotected images in a memory stick or PC card.

Before operation
Insert the PC card adaptor (with a memory stick inside) or a PC card to the unit.

(1) Set the POWER switch to MEMORY. Make sure that the lock knob is set to the right (unlock) position.
(2) Press MENU to display the menu.
(3) Turn the control dial to select , then press the dial.
(4) Turn the control dial to select DELETE ALL, then press the dial.
(5) Turn the control dial to select OK, then press the dial. "OK" changes to "EXECUTE."
(6) Turn the control dial to select EXECUTE, then press the dial. "DELETING" appears on the LCD screen. When all the unprotected images are deleted, "COMPLETE" is displayed.



Deleting images

To cancel deleting all the images on the memory stick or PC card
Select ⮌ RETURN in step 4, then press the control dial.

While "DELETING" appears
Do not turn the POWER switch or press any buttons.

Copying the image recorded with the memory card slot to mini DVCAM tapes

Note on the index screen
You cannot record the index screen.

If you press the EDITSEARCH buttons during pause mode
Memory playback stops.

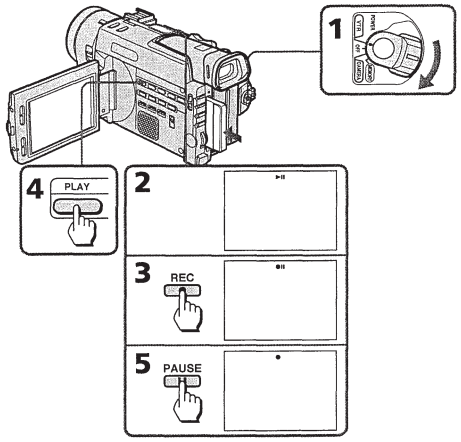
If you press the DISPLAY button in Standby or Recording mode
You can see memory playback and the file name indicators in addition to the indicators pertinent to mini DVCAM tapes, such as the time code indicator.

Copying the image recorded with the memory card slot to mini DVCAM tapes

You can copy still images or titles recorded with the memory card slot and record them to a mini DVCAM tape.

Before operation
- Insert a mini DVCAM tape for recording.
- Insert the PC card adaptor (with a memory stick inside) or a PC card to the unit.

(1) Set the POWER switch to VTR.
(2) Using the tape transport buttons, search a point where you want to record the desired still image. Set the mini DVCAM tape to playback pause mode.
(3) Press ● REC to set the mini DVCAM tape to recording pause mode.
(4) Play back the still image you want to copy.
(5) Press ❚❚ to start recording and press ❚❚ again to stop.
(6) If you have more to copy, repeat steps 4 and 5.



To stop copying in the middle
Press □.

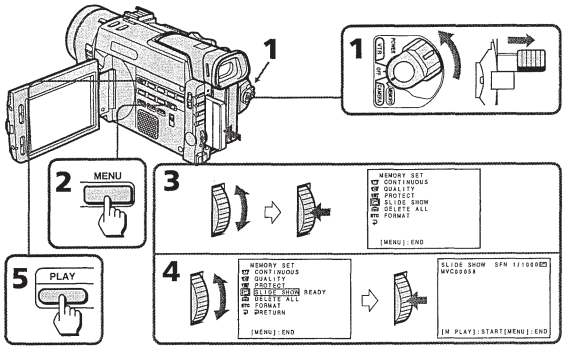
During copying
You cannot operate the following buttons:
MEMORY PLAY, MEMORY INDEX, MEMORY DELETE, MEMORY +, and MEMORY –.

Playing back images in a continuous loop – SLIDE SHOW

You can automatically play back images in sequence. This function is useful especially when checking the recorded images or during a presentation.

Before operation
Insert the PC card adaptor (with a memory stick inside) or a PC card to the unit.

(1) Set the POWER switch to MEMORY. Make sure that the lock knob is set to the right (unlock) position.
(2) Press MENU to display the menu.
(3) Turn the control dial to select 🖼, then press the dial.
(4) Turn the control dial to select SLIDE SHOW, then press the dial.
(5) Press MEMORY PLAY. The unit plays back the images recorded on a memory stick or PC card in sequence. When all the images have been played back, the display shows the first image again and the slide show ends.



To cancel the slide show
Press MENU to stop the slide show.

To pause during a slide show
Press MEMORY PLAY to set it in a pause.

To start the slide show from a particular image
Select the desired image using MEMORY +/– buttons before step 2.

To view the recorded images on TV
Connect this camcorder to a TV with the supplied A/V connecting cable before operation.

Playing back images in a continuous loop – SLIDE SHOW

Note on the slide show
You cannot make copy of the slide show on a mini DVCAM tape.

If you change the memory stick or PC card during operation
The slide show does not operate. If you change the memory stick or PC card, be sure to follow the steps again from the beginning.

Compatibility of DVCAM and DV formats

DVCAM format is developed as a more reliable and higher end format than consumer DV format. Here explained are the differences, compatibility, and limitations on editing about DVCAM and DV formats.

Differences between DVCAM and DV formats

Item	DVCAM	DV
Track pitch	15 µm	10 µm
Audio sampling frequency	12 bit: 32 kHz 16 bit: 48 kHz	12 bit: 32 kHz 16 bit: 32 kHz, 44.1 kHz, 48 kHz
Audio recording mode [1]	Lock mode	Unlock mode
Time code	Drop frame system or Non-drop frame system (SMPTE time code)	Drop frame system only

[1] There are two modes for audio recording, lock mode and unlock mode. In lock mode, the sampling frequencies of audio and video are synchronized. In unlock mode, which consumer DV format adopts, the two sampling frequencies are independent. Therefore, lock mode is more effective than unlock mode in digital processing and smooth transition during audio editing.

Mini DVCAM and mini DV cassettes

Both mini DVCAM and mini DV cassettes can be used on mini DVCAM or mini DV video equipment. The recording format of picture is defined according to recorder's format as described below.

Recorder's format	Cassette's format	Recording format
DVCAM	DVCAM	DVCAM
	DV	DVCAM
DV	DVCAM	DV
	DV	DV

This digital camcorder complies with DVCAM format. Though mini DV cassettes can be used for recording, we recommend you to use mini DVCAM cassettes to get the most out of high reliability of DVCAM format. The recording time of mini DV cassettes is 2/3 shorter than that indicated on the mini DV cassettes.

Compatibility on playback

Some tapes cannot be played back on mini DVCAM or mini DV video equipment.

Tape	On DV video equipment	On DVCAM video equipment
DV-formatted	Can be played back (only when recorded in SP mode)	Can be played back
DVCAM-formatted	Some equipments may be able to play back	Can be played back

Compatibility of DVCAM and DV formats

Compatibility on editing using DV connectors

When this digital camcorder is connected to other mini DVCAM or mini DV video equipment using DV connectors, the recording format of edited tapes is defined according to recorder's format as described below.

Source tape	Player's format	Recorder's format	Recording format
DVCAM-formatted [2][3]	DVCAM	DVCAM	DVCAM
DVCAM-formatted	DVCAM	DV	DV [4]
DVCAM-formatted [2]	DV [5]	DVCAM	DVCAM [7]
DVCAM-formatted	DV [5]	DV	DV [4]
DV-formatted [6]	DVCAM	DVCAM	DVCAM [1]
DV-formatted [6]	DVCAM	DV	DV
DV-formatted	DV	DVCAM	DVCAM [1]
DV-formatted	DV	DV	DV

[1] When using the mini DVCAM video equipment to carry out DV dubbing of a tape recorded in DV format, the tape produced will be in DVCAM format as follows:
– Audio recording mode will be unlock mode.
– The time code format will be partly maladjusted. (There will be no effect on the recorded picture except in certain case.)
[2] If the tape is to be dubbed is DVCAM formatted tape as in 1), the tape produced will be in DVCAM format as follows:
– Audio recording mode will be unlock mode.
– The time code format will be partly maladjusted.
[3] Depending on signal conditions of the source tape, you may not be able to edit the tape using the DV connectors.
[4] Audio recording mode of the edited tape is lock mode.
[5] Some mini DV video equipment may be able to play back a DVCAM-formatted tape. Even if the tape is played back, contents of the playback cannot be guaranteed.
[6] DV-formatted tapes recorded in SP mode only can be used as source tapes.
[7] Depending on model of video equipment, you may not be able to edit.

Limitations on editing

You will find the following limitations when editing.
- Due to the difference of a track pitch, you cannot record or edit on DV-formatted tapes using mini DVCAM video equipment.
- Depending on signal conditions, you may not be able to record or edit on DVCAM-formatted tapes.

In these cases, do the following:
- Edit using audio/video jacks.
- Dub a DV-formatted tape using audio/video jacks, then use the dubbed tape as a source tape.

Usable cassettes and playback modes

Selecting cassette types

You can use the DVCAM mini DVCAM cassette only. You cannot use any other DV, Hi8 8 mm, Hi8 Hi8, VHS VHS, S-VHS S-VHS, VHSC VHSC, S-VHSC S-VHSC, Betamax or SD Beta ED Betamax cassette.

We recommend mini DVCAM cassette with cassette memory.
There are two types of mini DVCAM cassettes: with cassette memory and without cassette memory. We recommend you to use the tape with cassette memory. The IC memory is mounted on this type of mini DVCAM cassette. This camcorder can read and write data such as dates of recording or titles, etc. to this memory. The functions using the cassette memory require successive signals recorded on the tape. If the tape has a blank portion in the beginning or between the recorded portions, a title may not be displayed properly or the search functions may not work properly. Not to make any blank portion on the tape, operate the following.
Press END SEARCH to go to the end of the recorded portion before you begin the next recording if you operate the following:
– you have ejected the cassette while recording.
– you have played back the tape in the VTR mode.
– you have used the Edit Search function.
If there is a blank portion or discontinuous signal on your tape, re-record from the beginning to the end of the tape concerning above.
The same result may occur when you record using a digital video camera recorder without a cassette memory function on a tape recorded by one with the cassette memory function.
Tapes with cassette memory have CM (Cassette Memory) mark. Sony recommends that you use a tape having CM mark to enjoy this camcorder fully.

When you play back

Copyright signal

When playing back
Using any other video camera recorder, you cannot record on a tape that has recorded a copyright control signals for copyright protection of software which is played back in this camcorder.

When recording
Using this camcorder, you cannot record software that has recorded a copyright control signals for copyright protection of software. "COPY INHIBIT" appears on the LCD screen, in the viewfinder or on the TV screen if you try to record such software.

Audio mode

FS32K (12-bit) mode: The original sound can be recorded in stereo 1, and the new sound in stereo 2 in 32 kHz. The balance between stereo 1 and stereo 2 can be adjusted by selecting AUDIO MIX in the menu system during playback. Both sounds can be played back.
FS48K (16-bit) mode: A new sound cannot be recorded but the original sound can be recorded in high quality. Moreover, it can also play back sound recorded in 32 kHz, 44.1 kHz or 48 kHz. When playing back a tape recorded in the FS48K (16-bit) mode, 48K indicator appears on the LCD screen or in the viewfinder.

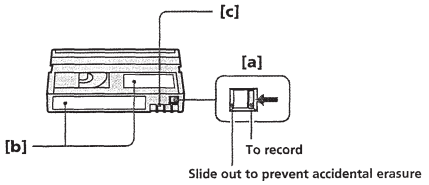
Usable cassettes and playback modes

Notes on the mini DVCAM cassette

To prevent accidental erasure
Slide out the protect tab on the cassette so that the red portion is visible. **[a]**

When affixing a label on the mini DVCAM cassette
Be sure to affix a label only on the locations as illustrated below so as not to cause malfunction of the camcorder. **[b]**

After using the mini DVCAM cassette
Rewind the tape to the beginning, put the cassette in its case, and store it in an upright position.



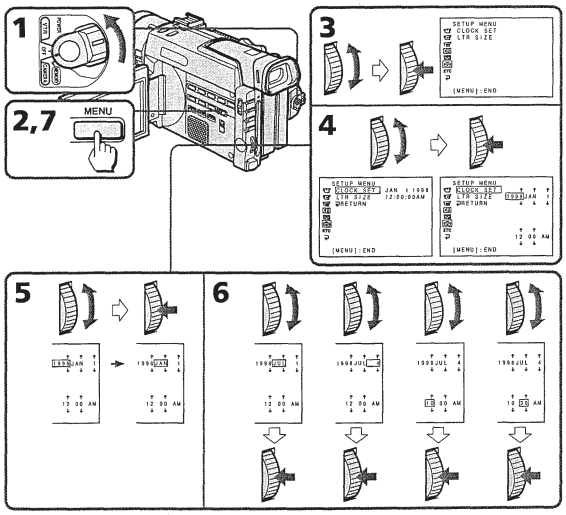
Note on gold-plated connector
If the gold-plated connector of mini DVCAM cassettes is dirty or dusty, you may not operate the function using cassette memory. Clean up the gold-plated connector with cotton-wool swab, about every 10 times ejection of a cassette. **[c]**

Charging the vanadium-lithium battery in the camcorder

Your camcorder is supplied with a vanadium-lithium battery installed so as to retain the date and time, etc., regardless of the setting of the POWER switch. The vanadium-lithium battery is always charged as long as you are using the camcorder. The battery, however, will get discharged gradually if you do not use the camcorder. It will be completely discharged in about a year if you do not use the camcorder at all. Even if the vanadium-lithium battery is not charged, it will not affect the camcorder operation. To retain the date and time, etc., charge the battery if the battery is discharged. The following are charging methods:
- Connect the camcorder to house current using the supplied AC power adaptor, and leave the camcorder with the POWER switch turned off for more than 24 hours.
- Or install the fully charged battery pack in the camcorder, and leave the camcorder with the POWER switch turned off for more than 24 hours.

Resetting the date and time

The date and time are set at the factory. Set the time according to the local time in your country. If you do not use the camcorder for about a year, the date and time settings may be released (bars may appear) because the vanadium-lithium battery installed in the camcorder will have been discharged. In this case, first charge the vanadium-lithium battery, then reset the date and time.
(1) Set the POWER switch to CAMERA.
(2) Press MENU to display the menu.
(3) Turn the control dial to select [camera], then press the dial.
(4) Turn the control dial to select CLOCK SET, then press the dial.
(5) Turn the control dial to adjust the year, then press the dial.
(6) Set the month, day, hour and minutes by turning and pressing the control dial.
(7) Press MENU to erase the menu display.



Resetting the date and time

To correct the date and time setting
Repeat steps 2 to 5.

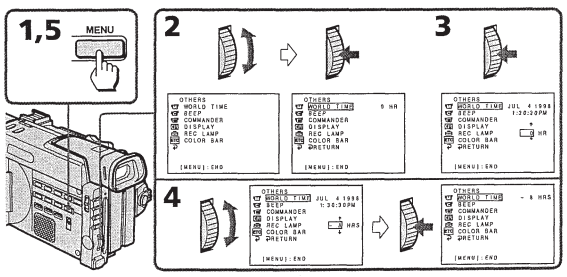
If you do not set the date and time
"--.--.--" is recorded on the tape and "80.1.1" on the memory stick or PC card

The year indicator changes as follows:
1998 → 1999 → . . 2001 . . → 2029

Note on the time indicator
The internal clock of this camcorder operates on a 12-hour cycle (DSR-PD100) or on a 24-hour cycle (DSR-PD100P).
- 12:00 AM stands for midnight.
- 12:00 PM stands for noon.

Simple setting of clock by time difference

You can easily set the clock for a local time by a time difference in the menu system. You can also reset the clock simply by setting the time difference to zero.
(1) While the camcorder is in Standby mode, press MENU to display the menu.
(2) Turn the control dial to select [ETC], then press the dial.
(3) Turn the control dial to select WORLD TIME, then press the dial.
(4) Turn the control dial to set a time difference, and press the dial. The hour of clock changes in relation to a time difference which you set.
(5) Press MENU to erase the menu display.



Note on WORLD TIME
If the clock is not set, WORLD TIME does not work.

Tips for using the battery pack

This section shows you how you can get the most out of your battery pack.

Preparing the battery pack

Always carry additional batteries
Have sufficient battery pack power to do 2 to 3 times as much recording as you have planned.

Battery life is shorter in a cold environment
Battery efficiency is decreased, and the battery will be used up more quickly, if you are recording in a cold environment.

To save battery power
Do not leave the camcorder in Standby mode when not recording to save the battery power. A smooth transition between scenes can be made even if recording is stopped and started again. While you are positioning the subject, selecting an angle, or looking at the LCD screen or through the viewfinder, the lens moves automatically and the battery is used. The battery is also used when a tape is inserted or removed.

When to replace the battery pack

While you are using your camcorder, the remaining battery indicator on the LCD screen or in the viewfinder decreases gradually as battery power is used up.
The remaining time in minutes also appears.

When the remaining battery indicator reaches the lowest point, the [battery] indicator appears and starts flashing on the LCD screen or in the viewfinder.
When the [battery] indicator on the LCD screen or in the viewfinder changes from slow flashing to rapid flashing while you are recording, set the POWER switch to OFF on the camcorder and replace the battery pack. Leave the tape in the camcorder to obtain a smooth transition between scenes after the battery pack has been replaced.

Notes on the rechargeable battery pack

Caution
Never leave the battery pack in temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.

The battery pack heats up
During charging or recording, the battery pack heats up. This is caused by energy that has been generated and a chemical change that has occurred inside the battery pack. This is not cause for concern, and is normal.

Battery pack care
- **Remove the battery pack from the camcorder after using it**, and keep it in a cool place. When the battery pack is installed to the camcorder, a small amount of current flows to the camcorder even if the POWER switch is set to OFF. This shortens battery life.
- The battery pack is always discharging even when it is not in use after charging. Therefore, you should charge the battery pack right before using the camcorder.

The life of the battery pack

If the battery indicator flashes rapidly just after turning on the camcorder with a fully charged battery pack, the battery pack should be replaced with a new fully charged one.

Charging temperature

You should charge batteries at temperatures from 10°C to 30°C (from 50°F to 86°F). Lower temperatures require a longer charging time.

Notes on the "InfoLITHIUM" Battery Pack

What is the "InfoLITHIUM" battery pack

The "InfoLITHIUM" battery pack is a lithium battery pack which can exchange data with compatible video equipment about its battery consumption.
When you use this battery pack with video equipment having the (i) *InfoLITHIUM* mark, the video equipment will indicate the remaining battery time in minutes.*
* The indication may not be accurate depending on the condition and environment which the equipment is used under.

How the battery consumption is displayed

The power consumption of the camcorder changes depending on its use, such as whether the LCD panel is used or not, how the autofocusing is working on or not.
While checking the condition of the camcorder, the "InfoLITHIUM" battery pack measures the battery consumption and calculates the remaining battery power. If the condition changes drastically, the remaining battery indication may suddenly decrease or increase by more than 2 minutes.
Even if 5 to 10 minutes is indicated as the battery remaining time on the LCD screen or in the viewfinder, the ⌧ indicator may also flash under some conditions.

To obtain more accurate remaining battery indication

Set the camcorder to recording standby mode and point towards a stationary object. Do not move the camcorder for 30 seconds or more.
- If the indication seems incorrect, use up the battery and then recharge it fully (Full charge[1]). Note that if you have used the battery in a hot or cold environment for long time, or you have repeated charging many times, the battery may not be able to show the correct time even after being fully charged.
- After you have used the "InfoLITHIUM" battery pack with an equipment not having the (i) *InfoLITHIUM* mark, make sure that you use up the battery on the equipment having the (i) *InfoLITHIUM* mark and then recharge fully.

Why the remaining battery indication does not match the continuous recording time in the operating instruction

The recording time is affected by the environmental temperature and conditions. The recording time becomes very short in a cold environment. The continuous recording time in the operating instruction is measured under the condition of using a fully charged (or normal charged[2]) battery pack in 25 °C (77 °F). As the environmental temperature and condition are different when you actually use the camcorder, the remaining battery time is not same as the continuous recording time in the operating instruction.

[1] Full charge: Charging for about 1 hour after the charge lamp of the AC power adaptor goes off.
[2] Normal charge: Charging just until the charge lamp of the AC power adaptor goes off.

Notes on charging

A brand-new battery pack

A brand-new battery pack is not charged. Before using the battery pack, charge it completely.

Recharge the battery pack whenever you like

You do not have to discharge it before recharging. If you charged the battery pack fully but you did not use it for a long time, it becomes discharged. Then recharge the battery pack before use.

Notes on the terminals

If the terminals (metal parts on the back) are not clean, the battery charge duration will be shortened

When the terminals are not clean or when the battery pack has not been used for a long time, repeatedly install and remove the battery pack a few times. This improves the contact condition. Also, wipe the +, – and C terminals with a soft cloth or paper.

Be sure to observe the following

- Keep the battery pack away from fire.
- Keep the battery pack dry.
- Do not open nor try to disassemble the battery pack.
- Do not expose the battery pack to any mechanical shock.

Maintenance information and precautions

Moisture condensation

If the camcorder is brought directly from a cold place to a warm place, moisture may condense inside the camcorder, on the surface of the tape, on the lens, on the head, or on the floppy disk. In this condition, the tape may stick to the head drum and be damaged or the camcorder may not operate correctly. To prevent possible damage under these circumstances, the camcorder is furnished with moisture sensors. Take the following precautions.

Inside the camcorder

If there is moisture inside the camcorder, the beep sounds and the ▮ indicator flashes. Eject the cassette or the PC card adaptor immediately. If this happens, none of the function except cassette ejection will work. Open the cassette compartment, turn off the camcorder, and leave it about 1 hour. When ⏏ indicator flashes at the same time, the cassette is inserted in the camcorder. Eject the cassette, turn off the camcorder, and leave also the cassette about 1 hour.

On the lens

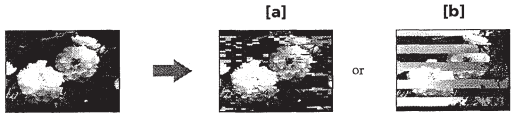
If moisture condenses on the lens, no indicator appears, but the picture becomes dim. Turn off the power and do not use the camcorder for about 1 hour.

How to prevent moisture condensation

When bringing the camcorder from a cold place to a warm place, put the camcorder in a plastic bag and allow it to adapt to room conditions over a period of time.
(1) Be sure to tightly seal the plastic bag containing the camcorder.
(2) Remove the bag when the air temperature inside it has reached the temperature surrounding it (after about 1 hour).

Video head cleaning

To ensure normal recording and clear pictures, clean the video heads.
The video heads may be dirty when:
- mosaic-pattern noise appears on the playback picture
- playback pictures do not move
- playback pictures are hardly visible
- playback pictures do not appear
- the ⊗ indicator and " ⌧ CLEANING CASSETTE" message appear one after another or the ⊗ indicator flashes on the LCD screen or in the viewfinder.



If **[a]** or **[b]** happens, clean the video heads with the Sony DVM12CL cleaning cassette (not supplied). Check the picture and if the above problem persists, repeat the cleaning. (Do not repeat cleaning more than 5 times in one session.)

Note
If the DVM12CL cleaning cassette (not supplied) is not available in your area, consult your nearest Sony dealer.

Precautions

Camcorder operation

- Operate the camcorder on 7.2 V (battery pack) or 8.4 V (AC power adaptor).
- Should any solid object or liquid get inside the casing, unplug the camcorder and have it checked by Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful of the lens.
- Keep the POWER switch set to OFF when not using the camcorder.
- Do not wrap up the camcorder and operate it since heat may build up internally.
- Keep the camcorder away from strong magnetic fields or mechanical vibration.

On handling tapes

- Do not insert anything in the small holes on the cassette.
- Do not open the tape protect cover or touch the tape.
- Avoid touching or damaging the terminals. To remove dust, clean the terminals with a soft cloth.

Camcorder care

- When the camcorder is not to be used for a long time, disconnect the power source and remove the tape. Periodically turn on the power, operate the camera and player sections and play back a tape for about 3 minutes.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth.
- Clean the camcorder body with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.
- Do not let sand get into the camcorder. When you use the camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause the unit to malfunction, and sometimes this malfunction cannot be repaired.

Maintenance information and precautions

AC power adaptor

Charging

- Use only an "InfoLITHIUM" type battery pack.
- Place the battery pack on a flat surface without vibration during charging.
- The battery pack will get hot during charging. This is normal.

Others

- Unplug the unit from the wall outlet when not in use for a long time. To disconnect the power cord, pull it out by the plug. Never pull the cord itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the AC power cord forcibly, or put a heavy object on it. This will damage the cord and may cause a fire or an electrical shock.
- Be sure that nothing metallic comes into contact with the metal parts of the connecting plate. If this happens, a short may occur and the unit may be damaged.
- Always keep the metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment because it will disturb AM reception and video operation.
- The unit becomes warm while in use. This is normal.
- Do not place the unit in locations that are:
  Extremely hot or cold, Dusty or dirty, Very humid, Vibrating

Note on dry batteries

To avoid possible damage from battery leakage or corrosion, observe the following.

- Be sure to insert the batteries in the correct direction.
- Dry batteries are not rechargeable.
- Do not use a combination of new and old batteries.
- Do not use different types of batteries.
- The batteries slowly discharge while not in use.
- Do not use a battery that is leaking.

If battery leakage occurred

- Wipe off the liquid in the battery case carefully before replacing the batteries.
- If you touch the liquid, wash it off with water.
- If the liquid get into your eyes, wash your eyes with a lot of water and then consult a doctor.

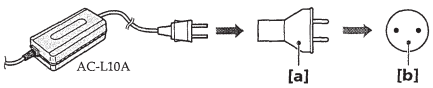
If any difficulty should arise, unplug the unit and contact your nearest Sony dealer.

Using your camcorder abroad

Each country or area has its own electric and TV color systems. Before using your camcorder abroad, check the following points.

Power sources

You can use your camcorder in any country or area with the supplied AC power adaptor within 100 V to 240 V AC, 50/60 Hz. Use a commercially available AC plug adaptor **[a]**, if necessary, depending on the design of the wall outlet **[b]**.



Difference in color systems

DSR-PD100 is an NTSC system-based camcorder. If you want to view the playback picture on a TV, it must be an NTSC system-based TV.
DSR-PD100P is a PAL system-based camcorder. If you want to view the playback picture on a TV, it must be a PAL system-based TV.
Check the following list.

NTSC system
Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

PAL system
Australia, Austria, Belgium, Czech Republic, China, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, etc.

PAL-M system
Brazil

PAL-N system
Argentina, Paraguay, Uruguay

SECAM system
Bulgaria, France, Guiana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Ukraine, etc.

Trouble check

If you run into any problem using the camcorder, use the following table to troubleshoot the problem. Should the difficulty persist, disconnect the power source and contact your Sony dealer or local authorized Sony service facility.

Camcorder

Power

Symptom	Cause and/or corrective actions
The power cannot be turned on.	• The battery pack is not installed. → Install the battery pack. (p. 8) • The battery is dead. → Use a charged battery pack. (p. 9) • The AC power adaptor is not connected to a wall outlet (mains). → Connect the AC power adaptor to a wall outlet (mains). (p. 27)
The power goes off.	• While being operated in CAMERA mode, the camcorder has been in Standby mode for more than 5 minutes. → Set the POWER switch to OFF, then to CAMERA. (p. 13) • The battery is dead. → Use a charged battery pack. (p. 9)
The battery pack is quickly discharged.	• The ambient temperature is too low. (p. 120) • The battery pack has not been charged fully. → Charge the battery pack again. (p. 9) • The battery pack is completely dead, and cannot be recharged. → Use another battery pack. (p. 26)

Operation

Symptom	Cause and/or corrective actions
START/STOP does not operate.	• The tape is stuck to the drum. → Eject the cassette. (p. 12) • The tape has run out. → Rewind the tape or use a new one. (p. 23) • The POWER switch is not set to CAMERA. → Set it to CAMERA. (p. 13) • The tab on the cassette is out (red). → Use a new tape or slide the tab. (p. 12)
The cassette cannot be removed from the holder.	• The AC power adaptor is not connected to a wall outlet (mains). → Connect the AC power adaptor to a wall outlet (mains). (p. 27) • The battery is dead. → Use a charged battery pack or the AC power adaptor. (p. 9, 27)
⊡ and ⏏ indicators flash and no function except for cassette ejection works.	• Moisture condensation has occurred. → Remove the cassette and leave the camcorder for at least 1 hour. (p. 123)
"CLOCK SET" appears when the camcorder is turned on.	• Reset the date and time. (p. 118)
The end search function does not work.	• You did not make a new recording after reinserting the cassette. • The tape without cassette memory ejected after recording.

Continued to the next page

Trouble check

Operation

Symptom	Cause and/or corrective actions
The end search function does not work correctly.	• The tape has a blank portion in the middle.
The tape does not move when a tape transport button is pressed.	• The POWER switch is not set to VTR. → Set it to VTR. (p. 23) • The tape has run out. → Rewind the tape or use a new one. (p. 23)
No sound or only a low sound is heard when playing back a tape.	• The volume is turned to the minimum. → Open the LCD panel and press VOLUME +. (p. 23) • AUDIO MIX is set to ST2 side in the menu system. → Adjust AUDIO MIX in the menu system. (p. 87)
The new sound added to the recorded tape is not heard.	• AUDIO MIX is set to ST1 side in the menu system. → Adjust AUDIO MIX in the menu system. (p. 87)
The Steady Shot function does not work.	• STEADYSHOT is set to OFF in the menu system. → Set it to ON. (p. 51)
The autofocus function does not work.	• Focus is set to the manual mode. → Set it to autofocus. (p. 58) • Shooting conditions are not suitable for autofocus. → Set focus to manual mode to focus manually. (p. 58)
The title is not displayed.	• TITLE DSPL is set to OFF in the menu system. → Set it to ON in the menu system. (p. 31)
The title is not recorded.	• The tape has no cassette memory. → Use a tape with cassette memory. (p. 63) • The cassette memory is full. → Erase another title. (p. 65) • The tape is set to prevent accidental erasure. → Slide the protect tab so that red portion is not visible. (p. 12) • Nothing is recorded in that position on the tape. → Superimpose the title to the recorded position. (p. 63)
The cassette label is not recorded.	• The tape has no cassette memory. → Use a tape with cassette memory. (p. 68) • The cassette memory is full. → Erase some titles. (p. 65) • The tape is set to prevent accidental erasure. → Slide the protect tab so that red portion is not visible. (p. 12)
Displaying the recorded date, date search function does not work.	• The tape has no cassette memory. → Use a tape with cassette memory. (p. 73) • CM SEARCH is set to OFF in the menu system. → Set it to ON. (p. 73)

Operation

Symptom	Cause and/or corrective actions
The title search function does not work.	• The tape has no cassette memory. → Use a tape with cassette memory. (p. 75) • CM SEARCH is set to OFF in the menu system. → Set it to ON. (p. 75) • There is no title in the tape. → Superimpose the titles. (p. 63)
C/I/I indicator does not appear when using a tape with cassette memory.	• The gold-plated connector of the tape is dirty or dusty. → Clean the gold-plated connector. (p. 117)
The date search, title search, or end search does not work correctly.	• The tape has a blank portion between the recorded portions. (p. 116)
The click of the shutter does not sound.	• BEEP is set to OFF in the menu system. → Set it to MELODY or NORMAL. (P. 32)

Picture

Symptom	Cause and/or corrective actions
The image on the viewfinder screen is not clear.	• The viewfinder lens is not adjusted. → Adjust the viewfinder lens. (p. 14)
A vertical band appears when a subject such as lights or a candle flame is shot against a dark background.	• The contrast between the subject and background is too high. The camcorder is not malfunctioning. → Change locations.
The picture is "noisy" or does not appear.	• The video heads may be dirty. → Clean the heads using the Sony DVM12CL (not supplied) cleaning cassette. (p. 123)
⊗ indicator flashes on the LCD screen or in the viewfinder.	• The video heads may be dirty. → Clean the heads using the Sony DVM12CL (not supplied) cleaning cassette. (p. 123)
The picture is too bright or too dark on the LCD screen.	• LCD BRIGHT is not adjusted properly. → Press + or – to obtain the brightness you want. (p. 16, 23)
A vertical band appears when shooting a very bright subject.	• The camcorder is not malfunctioning.
The picture does not appear on the LCD screen or in the viewfinder.	• Incorporated fluorescent tube is worn out. → Please contact your nearest Sony dealer.
The picture does not appear in the viewfinder.	• The LCD panel is open. → Close the LCD panel.
A display such as "C:□□:□□" appears on the LCD screen or in the viewfinder.	• The self-diagnosis display function has been activated. → Check the code and diagnosis the problem by referring to the code chart. (p. 132)

Additional Information

Continued to the next page 129

Picture

Symptom	Cause and/or corrective actions
The picture seems to be in flash motion.	• PROG. SCAN is set to ON in the menu system, or the POWER switch is set to MEMORY This is caused by progressive scanning (display with all the pixels) and is not a malfunction.
Remaining tape indicator is not displayed.	• The REMAIN in the menu system is set to AUTO. → If the remaining tape indicator is always displayed, set it to ON.
The memory card slot does not function.	• The battery is dead. → Use a charged battery pack or the AC power adaptor. • The PC card adaptor or PC card is not inserted correctly. → Eject the PC card adaptor or PC card and insert it correctly • The POWER switch is set to CAMERA. → Set it to MEMORY or VTR.
Recording does not function.	• The PC card adaptor or PC card has already been recorded to its full capacity. → Erase unnecessary images and record again. • The memory stick or PC card is not inserted. → Insert the memory stick or PC card. • Unusable PC card is inserted. → Use proper PC cards. • Unformatted the memory stick or PC card is inserted. → Format the memory stick or PC card. • The protect switch on the memory stick is set to LOCK position. → Slide the protect switch to write.
The image cannot be deleted.	• The image is protected. → Cancel the protect.

Others

Symptom	Cause and /or corrective actions
While editing using the i.LINK cable (DV connecting cable), recording picture cannot be monitored.	• Remove the i.LINK cable (DV connecting cable), and connect it again.
The camcorder becomes warm.	• If the power of the camcorder is on for a long time, it becomes warm, which is not malfunction.
The supplied Remote Commander does not work.	• COMMANDER is set to OFF in the menu system. → Set it to ON. • Something is blocking the infrared rays. → Remove the obstacle • The battery is not inserted with the correct polarity. → Insert the battery with the correct polarity (p. 140) • The batteries are dead. → Insert new ones. (p. 140)

Others

Symptom	Cause and/or corrective actions
No function works though the power is on.	• Disconnect the power cord (mains lead) of the AC power adaptor or remove the battery pack, then reconnect it in about 1 minute. Turn the power on. If the functions still do not work, open the LCD panel and press the RESET button beside the speaker using a sharp-pointed object. (If you press the RESET button, all the settings including the date and time return to the default.) (p. 136)
DV synchro-editing does not function.	• The input selector on the VCR is not set correctly. → Set the selector to DV input position. If you use another DVCAM camcorder, set the power switch to VTR. • The camcorder is connected to DVCAM equipment of other than Sony. → Operate normal editing. • Setting program on a blank portion of the tape is attempted. → Set the program again on a recorded portion.

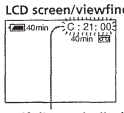
Additional Information

Continued to the next page 131

Self-diagnosis function

The camcorder has a self-diagnosis display. This function displays the camcorder's condition with five digits (a combination of a letter and figures) on the LCD screen or in the viewfinder. If this occurs, check the following code chart. The five-digit display informs you of the camcorder's current condition. The last two digits (indicated by □□) will differ depending on the state of the camcorder.

LCD screen/viewfinder



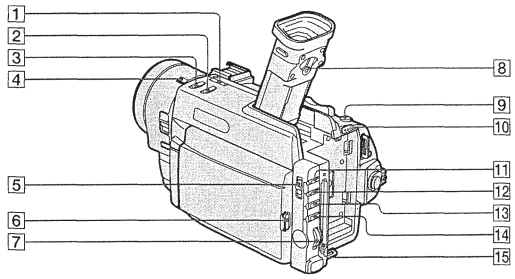
Self-diagnosis display

- C:□□:□□
  You can service the camcorder yourself.
- E:□□:□□
  Contact your Sony dealer or local authorized Sony facility.

Five-digit display	Cause and/or corrective actions
C:04:□□	• The battery other than "InfoLITHIUM" is used. → Use the "InfoLITHIUM" battery.(p. 121)
C:21:□□	• Moisture condensation has occurred. → Remove the cassette and leave the camcorder for at least 1 hour. (p. 123)
C:22:□□	• The video heads are dirty. → Clean the heads using the Sony DVM12CL cleaning cassette (not supplied). (p. 123)
C:31:□□ C:32:□□	• A serviceable situation not mentioned above has occurred. → Remove the cassette and insert it again, then operate the camcorder. (p. 12) → Disconnect the power cord (mains lead) of the AC power adaptor or remove the battery pack. After reconnecting the power source, operate the camcorder.
E:61:□□ E:62:□□	• A camcorder malfunction which you cannot service has occurred. → Contact your Sony dealer or local authorized Sony service facility and inform them of the five digits. (example: E:61:10)

If you are unable to resolve the problem, contact your Sony dealer or local authorized Sony service facility.

Identifying the parts



1 **EDITSEARCH buttons** (p. 22, 25)

2 **BACK LIGHT button** (p. 38)

3 **FADER button** (p. 36)

4 **ND FILTER button** (p. 49)

5 **AUTO LOCK selector** (p. 44)

6 **OPEN switch** (p. 23)

7 **Control dial** (p. 28)

8 **Viewfinder lens adjustment lever** (p. 14)

9 **PHOTO button** (p. 33)

10 **BATT (battery) RELEASE button** (p. 11)

11 **SHUTTER SPEED button** (p. 45)

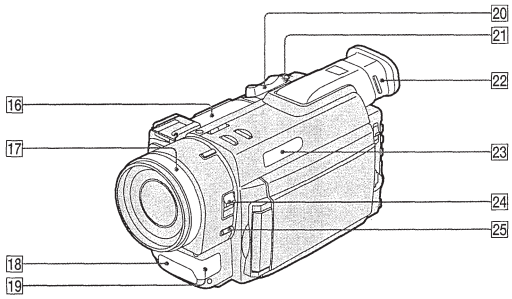
12 **WHT BAL (white balance) button** (p. 46)

13 **PROGRAM AE button** (p. 55)

14 **EXPOSURE button** (p. 44)

15 **Memory card slot** (p. 88)

Identifying the parts



16 **Tape transport buttons** (p. 23)
- □ STOP (stop)
- ◀◀ REW (rewind)
- ▷ PLAY (playback)
- ▶▶ FF (fast-forward)
- ❚❚ PAUSE (pause)
- ● REC (record)

17 **Focus ring** (p. 58)

18 **Remote sensor** (p. 141)

19 **Built-in microphone**

20 **Power zoom lever** (p. 15)

21 **TC RESET button** (p. 14)

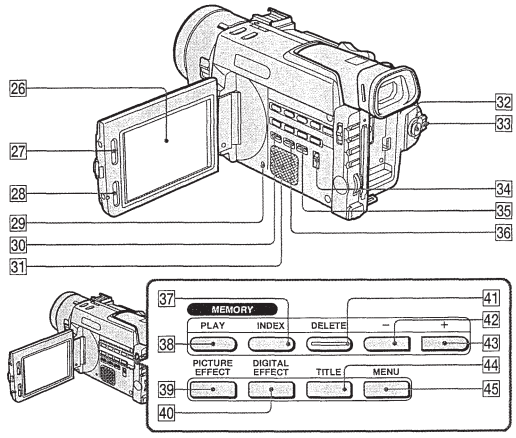
22 **Viewfinder** (p. 14)

23 **Display window** (p. 143)

24 **FOCUS switch** (p. 58)

25 **PUSH AUTO button** (p. 58)

Identifying the parts



26 **LCD Screen** (p. 16)

27 **LCD BRIGHT buttons** (p. 16, 23)

28 **VOLUME buttons** (p. 23)

29 **RESET button** (p. 131)

30 **DATA CODE button** (p. 79)

31 **Speaker**

32 **START/STOP button** (p. 13)

33 **POWER switch** (p. 13, 23)

34 **ZEBRA selector** (p. 50)

35 **END SEARCH button** (p. 22, 25)

36 **DISPLAY button** (p. 23)

37 **MEMORY INDEX button** (p. 104)

38 **MEMORY PLAY button** (p. 103)

39 **PICTURE EFFECT button** (p. 41)

40 **DIGITAL EFFECT button** (p. 42)

41 **MEMORY DELETE button** (p. 107)

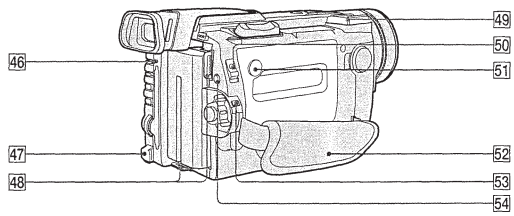
42 **MEMORY – button** (p. 103, 107)

43 **MEMORY + button** (p. 103, 107)

44 **TITLE button** (p. 63, 66)

45 **MENU button** (p. 28)

Identifying the parts



46 **Access lamp** (p. 90)

47 **DC IN jack** (p. 9)

48 **Hooks for shoulder strap** (p. 141)

49 **Intelligent accessory shoe**

50 ***EJECT* switch** (p. 12)

51 **PUSH button** (p. 12)

52 **Grip strap** (p. 20)

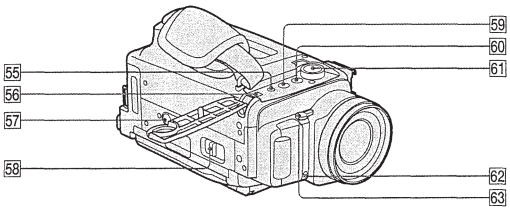
53 **Lock knob** (p. 14)

54 **(self-timer) button** (p. 19)

Intelligent Accessory Shoe

Note on the intelligent accessory shoe

Supplies power to optional accessories such as a video light or microphone. The intelligent accessory shoe is linked to the POWER switch, allowing you to turn on and off the power supplied by the shoe. Refer to the operating instruction of the accessory for further information. To connect an accessory, press down and push it to the end, and then tighten the screw. To remove an accessory, loosen the screw, and then press down and pull out the accessory.



55 **LANC control jack**
stands for Local Application Control Bus System. The control jack is used for controlling the tape transport of video equipment and peripherals connected to it. This jack has the same function as the jack indicated as CONTROL L or REMOTE.

56 **DV IN/OUT jack** (p. 81)
This "i.LINK" mark is a trademark of Sony Corporation and indicates that this product is in agreement with IEEE 1394-1995 specifications and their revisions.
The DV IN/OUT jack is i.LINK compatible.

57 **Tripod receptacle** (p. 21)
Make sure that the length of the tripod screw is less than 6.5 mm (9/32 inch). Otherwise, you cannot attach the tripod securely and the screw may damage the camcorder.

58 **MEMORY RELEASE lever**

59 **(headphones) jack** (p. 23)

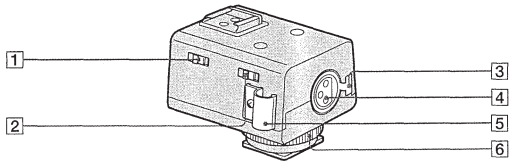
60 **AUDIO/VIDEO jack** (p. 70, 80)

61 **S VIDEO jack** (p. 34, 70, 80)

62 **Camera recording lamp**

63 **MIC jack (PLUG IN POWER)** (p. 85)
Connect an external microphone (not supplied). This jack also accepts a "plug-in-power" microphone.

XLR adaptor



1 **ATT (attenuater) switch** (p. 61)

2 **+48V switch** (p. 61)

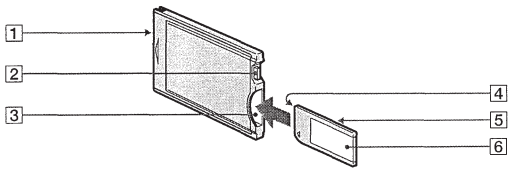
3 **PUSH button** (p. 61)

4 **MIC IN connector** (p. 61)

5 **Cable holder**

6 **Screw** (p. 61)

PC card adaptor and memory stick



1 **Connector** (p. 88)

2 **Eject button** (p. 90)

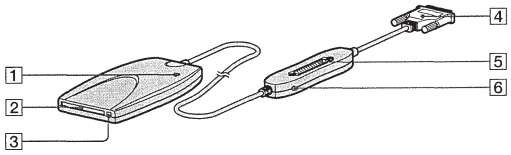
3 **Memory stick slot** (p. 88)

4 **Terminal** (p. 88)

5 **Write-protect switch** (p. 88)

6 **Label space** (p. 88)

PC card/parallel port adaptor



1 **Power/access lamp** (p. 91)

2 **PC card slot** (p. 91)

3 **Eject button**(p. 91)

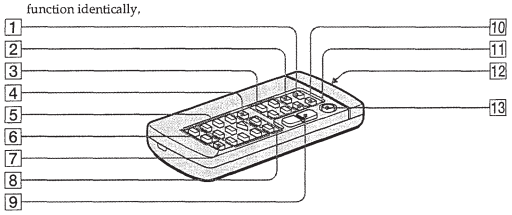
4 **D-sub 25-pin connector (male)** (p. 91)

5 **D-sub 25-pin connector (female)** (p. 91)

6 **DC jack** (p. 91)

Remote Commander

The buttons that have the same name on the Remote Commander as on the camcorder function identically.



1 **PHOTO button** (p. 33)

2 **DISPLAY button** (p. 23)

3 **Memory control buttons** (p. 104)

4 **SEARCH MODE button** (p. 73, 75, 76)

5 **Tape transport buttons** (p. 23)

6 **REC button** (p. 84)/**MARK button** (p. 82)

7 **AUDIO DUB button** (p. 86)

8 **I◄◄ / ►►I buttons** (p. 73, 75, 76)

9 **Power zoom button** (p. 15)

10 **ZERO SET MEMORY button**
This button does not function.

11 **DATA CODE button** (p. 79)

12 **Transmitter**
Point toward the remote sensor to control the camcorder after turning on the camcorder.

13 **START/STOP button** (p. 13)

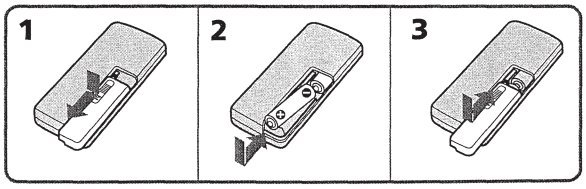
To prepare the Remote Commander

To use the Remote Commander, you must insert two size AA (R6) batteries. Use the supplied size AA (R6) batteries.

(1) Remove the battery cover from the Remote Commander.

(2) Insert both of the size AA (R6) batteries with correct polarity.

(3) Put the battery cover back onto the Remote Commander.



Note on battery life
The batteries for the Remote Commander last about 6 months under normal operation. When the batteries become weak or dead, the Remote Commander does not work.

To avoid damage from possible battery leakage
Remove the batteries when you will not use the Remote Commander for a long time.

Remote control direction

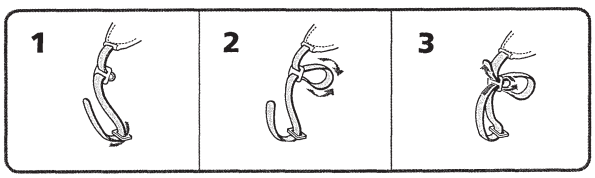
Aim the Remote Commander to the remote sensor.
The operative range of the Remote Commander is about 5 m (16.4 feet) indoors. Depending on the angle, Remote Commander may not activate the camcorder.

Notes on the Remote Commander

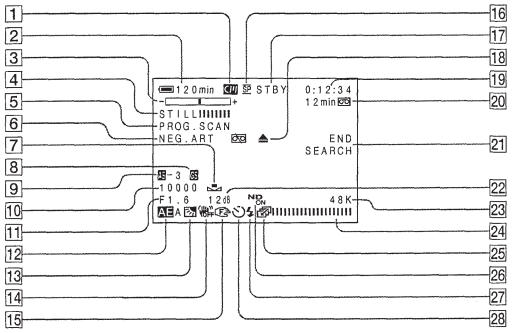
- Keep the remote sensor away from strong light sources such as direct sunlight or illumination. Otherwise, the remote control may not be effective.
- Be sure that there is no obstacle between the remote sensor on the camcorder and the Remote Commander.
- This camcorder works in commander mode VTR 2. The commander modes (1, 2 and 3) are used to distinguish this camcorder from other Sony VCRs to avoid remote control misoperation. If you use another Sony VCR in commander mode VTR 2, we recommend you change the commander mode or cover the remote sensor of the VCR with black paper.

Attaching the shoulder strap

Attach the supplied shoulder strap to the hooks for the shoulder strap.



Operation indicators



1 **Cassette memory indicator** (p. 116)

2 **Remaining battery indicator** (p. 120)

3 **Zoom indicator** (p. 15) **/Exposure indicator** (p. 45)**/ Data file name indicator** (p. 89)

4 **Digital effect indicator** (p. 43)

5 **PROG.SCAN indicator** (p. 35)**/ 16:9WIDE indicator** (p. 39)

6 **Picture effect indicator** (p. 41)

7 **White balance indicator** (p. 46)

8 **Gain shift indicator** (p. 53)

9 **AE shift indicator** (p. 52)

10 **Shutter speed indicator** (p. 45)

11 **Aperture indicator** (p. 55)

12 **Program AE indicator** (p. 54)

13 **Back light indicator** (p. 38)

14 **Steady shot OFF indicator** (p. 51)

15 **Manual focus/Infinity indicator** (p. 58)

16 **SP mode indicator** (p. 24)

17 **Standby/Recording indicator** (p. 13)**/Tape transport mode indicator** (p. 23)**/Image quality mode indicator** (p. 92)

18 **Warning indicators** (p. 144)

19 **Time code indicator** (p. 14) **/Self diagnosis indicator** (p. 132)**/Image number indicator** (p. 104)

20 **Remaining tape indicator** (p. 143)**/Memory playback indicator** (p. 104)

21 **END SEARCH indicator** (p. 25)

22 **Gain indicator** (p. 79)

23 **Audio mode indicator** (p. 31)

24 **Microphone level indicator** (p. 48)

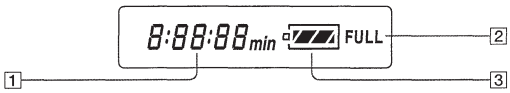
25 **Continuous mode indicator** (p. 102)

26 **ND filter indicator** (p. 49)

27 **Video flash ready indicator** (p. 33)

28 **Self-timer indicator** (p. 19)

Display window



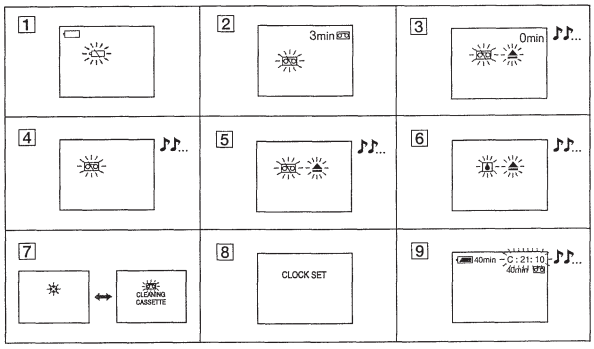
1 **Remaining time in minutes indicator** (p. 9) **/ Tape counter** (p. 14) **/ Memory counter** (p. 104) **/ Time code indicator** (p. 13)

2 **FULL charge indicator** (p. 9)

3 **Remaining battery indicator** (p. 9, 120)

Warning indicators

If indicators flash on the LCD screen or in the viewfinder or warning messages appear on the screen, check the following:
♪: You can hear the beep sound when BEEP is set to MELODY or NORMAL in the menu system.



1 **The battery is weak or dead.**
Slow flashing: The battery is weak.
Fast flashing: The battery is dead.
Depending on conditions, the ⌧ indicator may flash, even if there are 5 to 10 minutes remaining.

2 **The tape is near the end.**
The flashing is slow.

3 **The tape has run out.**
The flashing becomes rapid.

4 **No tape has been inserted.**

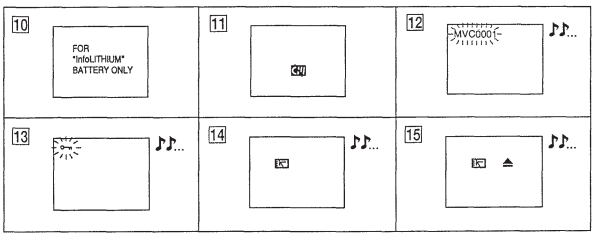
5 **The tab on the tape is out (red).**

6 **Moisture condensation has occurred.** (p. 123)

7 **The video heads may be contaminated.** (p. 123)

8 **The clock is not set.**
When this message appears though you set the date and time, the vanadium-lithium battery is discharged. Charge the vanadium-lithium battery. (p. 117)

9 **Some other trouble has occurred.**
Use the self-diagnosis function (p. 132). If the display does not disappear, contact your Sony dealer or local authorized Sony service facility.



10 **The battery is not the "InfoLITHIUM" type.**

11 **The tape has no cassette memory.** (p. 5)

12 **The file cannot be read properly.**

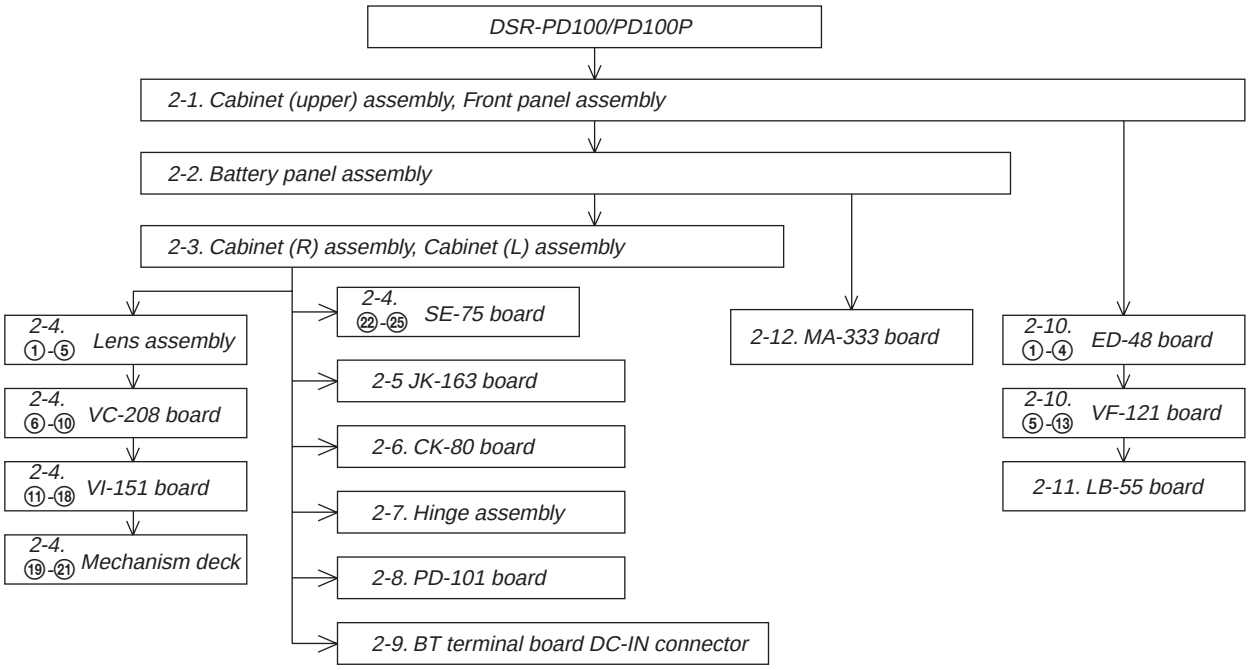
13 **The image data file is protected.**
The flashing is slow.

14 **The tape has no memory left or cannot use the memory.**

15 **The protect tab is set to prevent accidental erasure.**

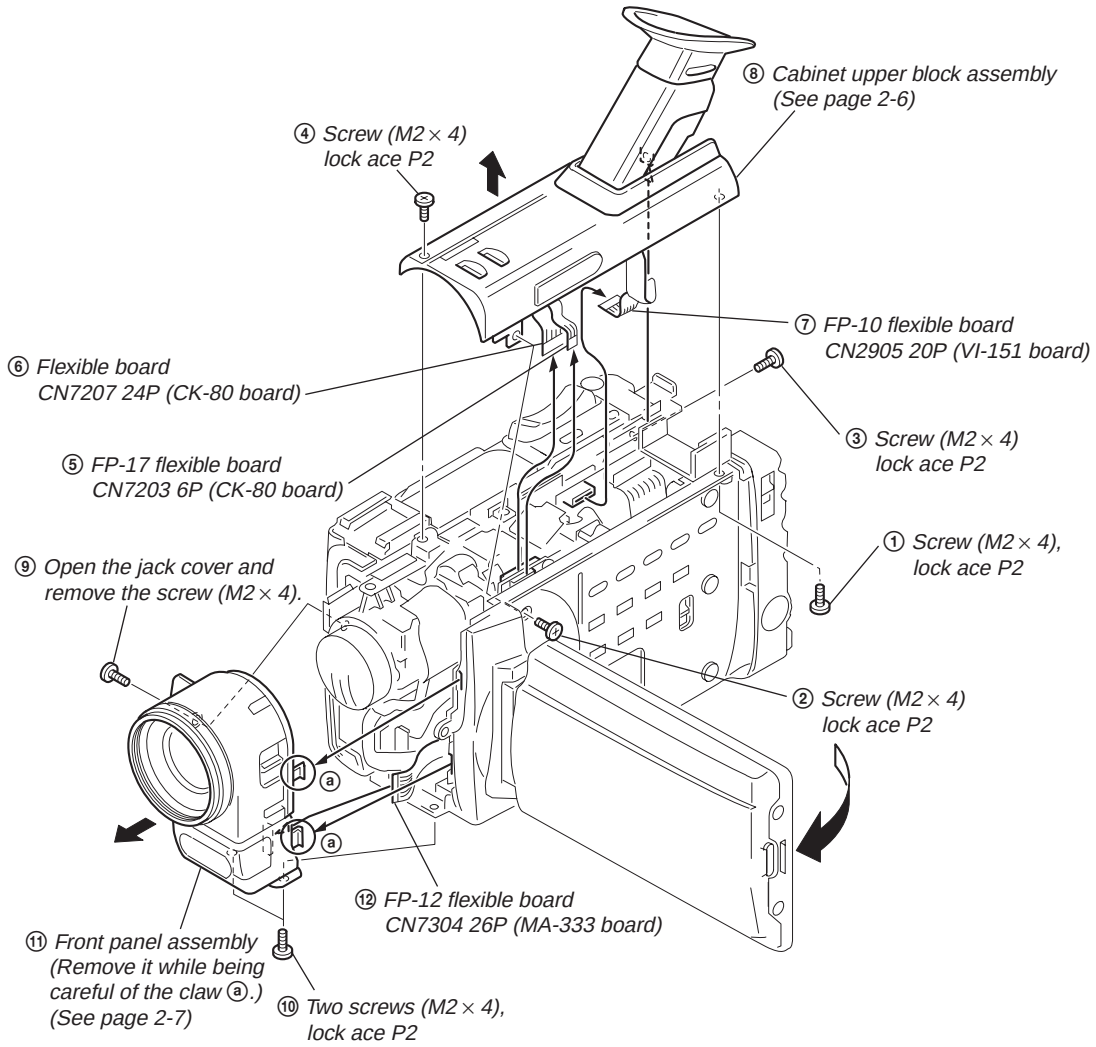
SECTION 2
DISASSEMBLY

NOTE: Follow the disassembly procedure as shown in the flow chart below.

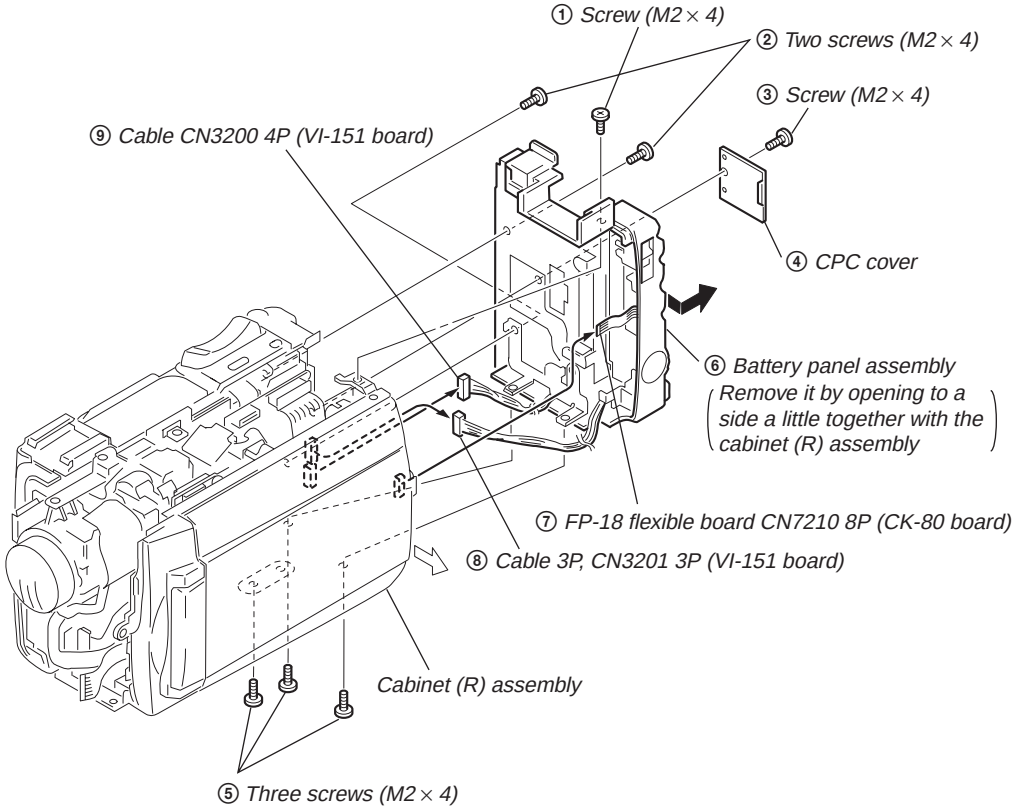


NOTE: Follow the disassembly procedure in the numerical order given.

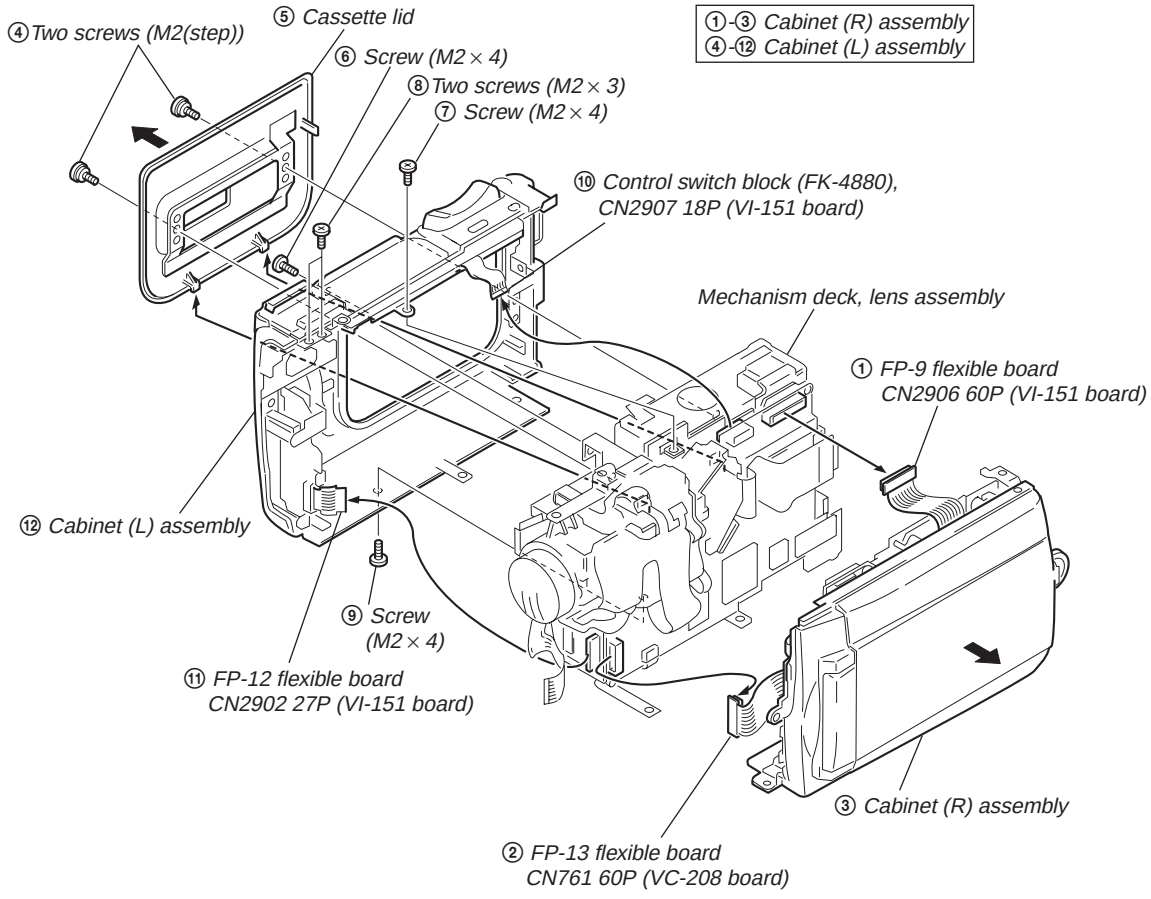
2-1. CABINET (UPPER) ASSEMBLY, FRONT PANEL ASSEMBLY


⑧ Cabinet upper block assembly (See page 2-6)
④ Screw (M2 × 4) lock ace P2
⑦ FP-10 flexible board CN2905 20P (VI-151 board)
⑥ Flexible board CN7207 24P (CK-80 board)
③ Screw (M2 × 4) lock ace P2
⑤ FP-17 flexible board CN7203 6P (CK-80 board)
① Screw (M2 × 4), lock ace P2
⑨ Open the jack cover and remove the screw (M2 × 4).
② Screw (M2 × 4) lock ace P2
ⓐ
ⓐ
⑫ FP-12 flexible board CN7304 26P (MA-333 board)
⑪ Front panel assembly (Remove it while being careful of the claw ⓐ.) (See page 2-7)
⑩ Two screws (M2 × 4), lock ace P2

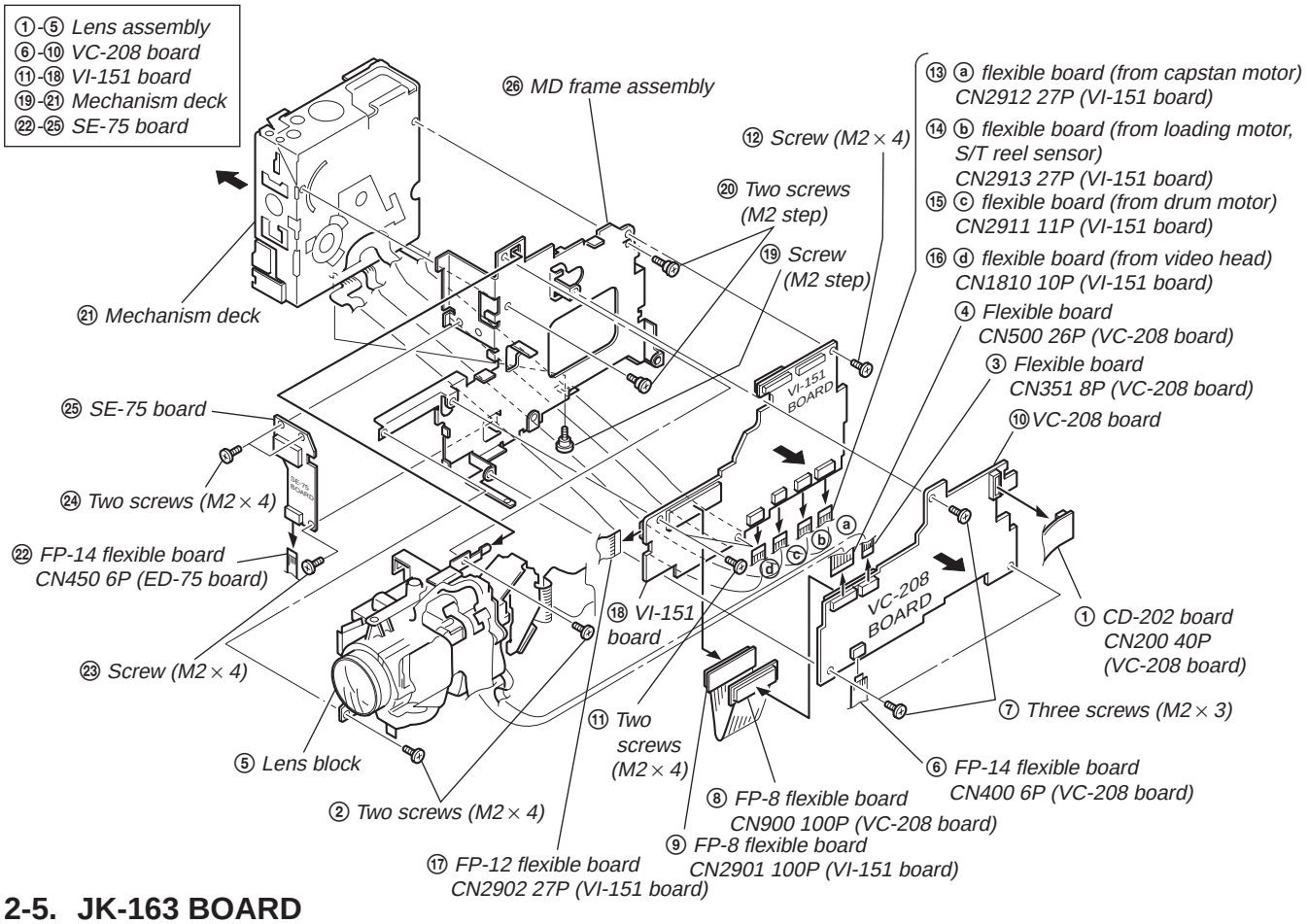
2-2. BATTERY PANEL ASSEMBLY


① Screw (M2 × 4)
② Two screws (M2 × 4)
③ Screw (M2 × 4)
⑨ Cable CN3200 4P (VI-151 board)
④ CPC cover
⑥ Battery panel assembly
Remove it by opening to a side a little together with the cabinet (R) assembly
⑦ FP-18 flexible board CN7210 8P (CK-80 board)
⑧ Cable 3P, CN3201 3P (VI-151 board)
Cabinet (R) assembly
⑤ Three screws (M2 × 4)

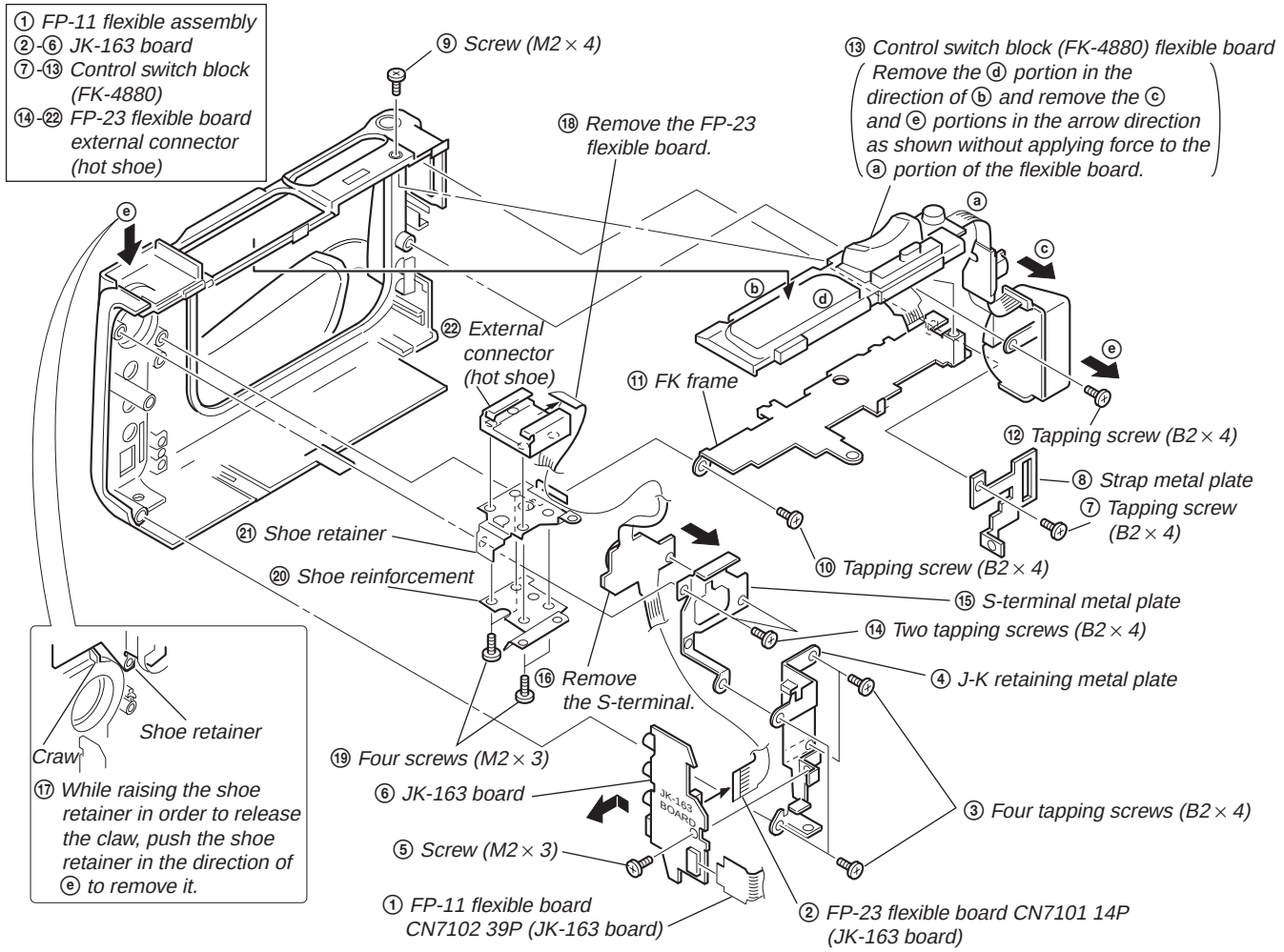
2-3. CABINET (R) ASSEMBLY, CABINET (L) ASSEMBLY


①-③ Cabinet (R) assembly
④-⑫ Cabinet (L) assembly
④ Two screws (M2(step))
⑤ Cassette lid
⑥ Screw (M2 × 4)
⑧ Two screws (M2 × 3)
⑦ Screw (M2 × 4)
⑩ Control switch block (FK-4880), CN2907 18P (VI-151 board)
Mechanism deck, lens assembly
① FP-9 flexible board CN2906 60P (VI-151 board)
⑫ Cabinet (L) assembly
⑨ Screw (M2 × 4)
⑪ FP-12 flexible board CN2902 27P (VI-151 board)
③ Cabinet (R) assembly
② FP-13 flexible board CN761 60P (VC-208 board)

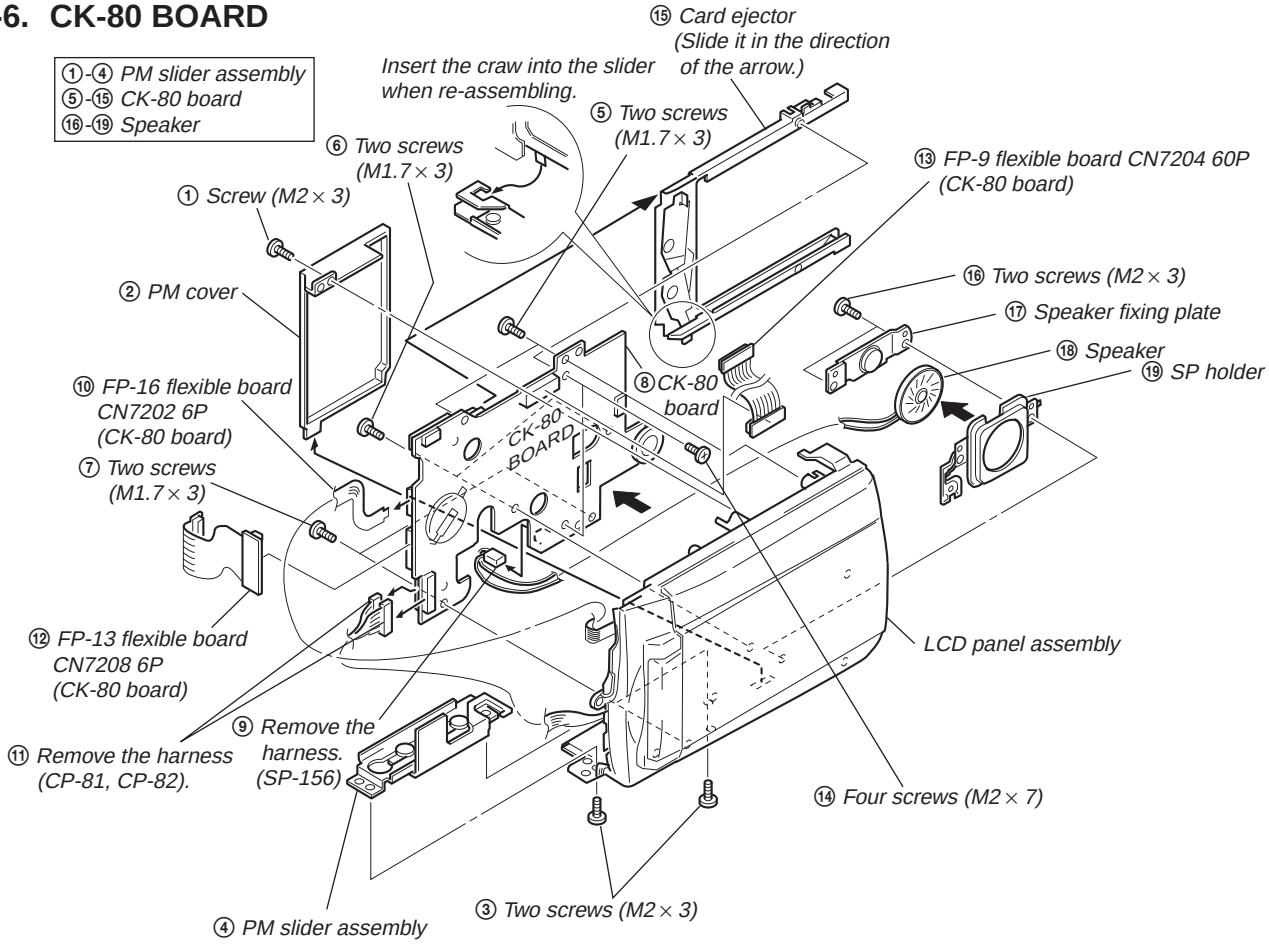
2-4. MECHANISM DECK, LENS ASSEMBLY, VC-208, VI-151, SE-75 BOARDS


①-⑤ Lens assembly
⑥-⑩ VC-208 board
⑪-⑱ VI-151 board
⑲-㉑ Mechanism deck
㉒-㉕ SE-75 board
㉖ MD frame assembly
⑫ Screw (M2 × 4)
⑳ Two screws (M2 step)
⑲ Screw (M2 step)
㉑ Mechanism deck
⑬ ⓐ flexible board (from capstan motor) CN2912 27P (VI-151 board)
⑭ ⓑ flexible board (from loading motor, S/T reel sensor) CN2913 27P (VI-151 board)
⑮ ⓒ flexible board (from drum motor) CN2911 11P (VI-151 board)
⑯ ⓓ flexible board (from video head) CN1810 10P (VI-151 board)
④ Flexible board CN500 26P (VC-208 board)
③ Flexible board CN351 8P (VC-208 board)
⑩ VC-208 board
㉕ SE-75 board
㉔ Two screws (M2 × 4)
㉒ FP-14 flexible board CN450 6P (ED-75 board)
⑱ VI-151 board
VI-151 BOARD
VC-208 BOARD
① CD-202 board CN200 40P (VC-208 board)
㉓ Screw (M2 × 4)
⑤ Lens block
⑪ Two screws (M2 × 4)
⑦ Three screws (M2 × 3)
⑥ FP-14 flexible board CN400 6P (VC-208 board)
② Two screws (M2 × 4)
⑧ FP-8 flexible board CN900 100P (VC-208 board)
⑨ FP-8 flexible board CN2901 100P (VI-151 board)
⑰ FP-12 flexible board CN2902 27P (VI-151 board)

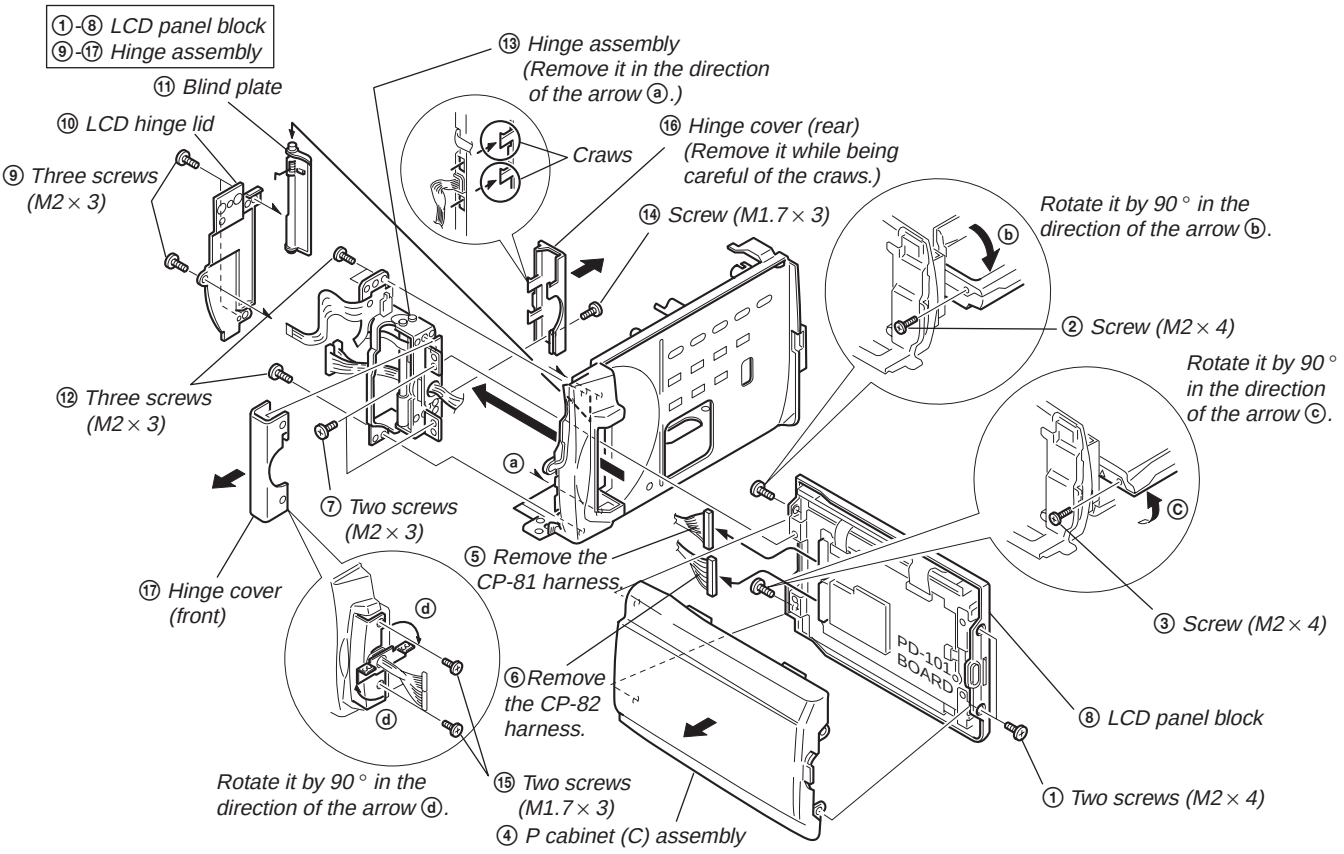
2-5. JK-163 BOARD


① FP-11 flexible assembly
②-⑥ JK-163 board
⑦-⑬ Control switch block (FK-4880)
⑭-㉒ FP-23 flexible board external connector (hot shoe)
⑨ Screw (M2 × 4)
⑱ Remove the FP-23 flexible board.
⑬ Control switch block (FK-4880) flexible board
Remove the ⓓ portion in the direction of ⓑ and remove the ⓒ and ⓔ portions in the arrow direction as shown without applying force to the ⓐ portion of the flexible board.
㉒ External connector (hot shoe)
⑪ FK frame
⑫ Tapping screw (B2 × 4)
⑧ Strap metal plate
⑦ Tapping screw (B2 × 4)
㉑ Shoe retainer
⑩ Tapping screw (B2 × 4)
⑳ Shoe reinforcement
⑮ S-terminal metal plate
⑭ Two tapping screws (B2 × 4)
④ J-K retaining metal plate
⑯ Remove the S-terminal.
⑲ Four screws (M2 × 3)
⑥ JK-163 board
JK-163 BOARD
③ Four tapping screws (B2 × 4)
⑤ Screw (M2 × 3)
① FP-11 flexible board CN7102 39P (JK-163 board)
② FP-23 flexible board CN7101 14P (JK-163 board)
Shoe retainer
Craw
⑰ While raising the shoe retainer in order to release the claw, push the shoe retainer in the direction of ⓔ to remove it.

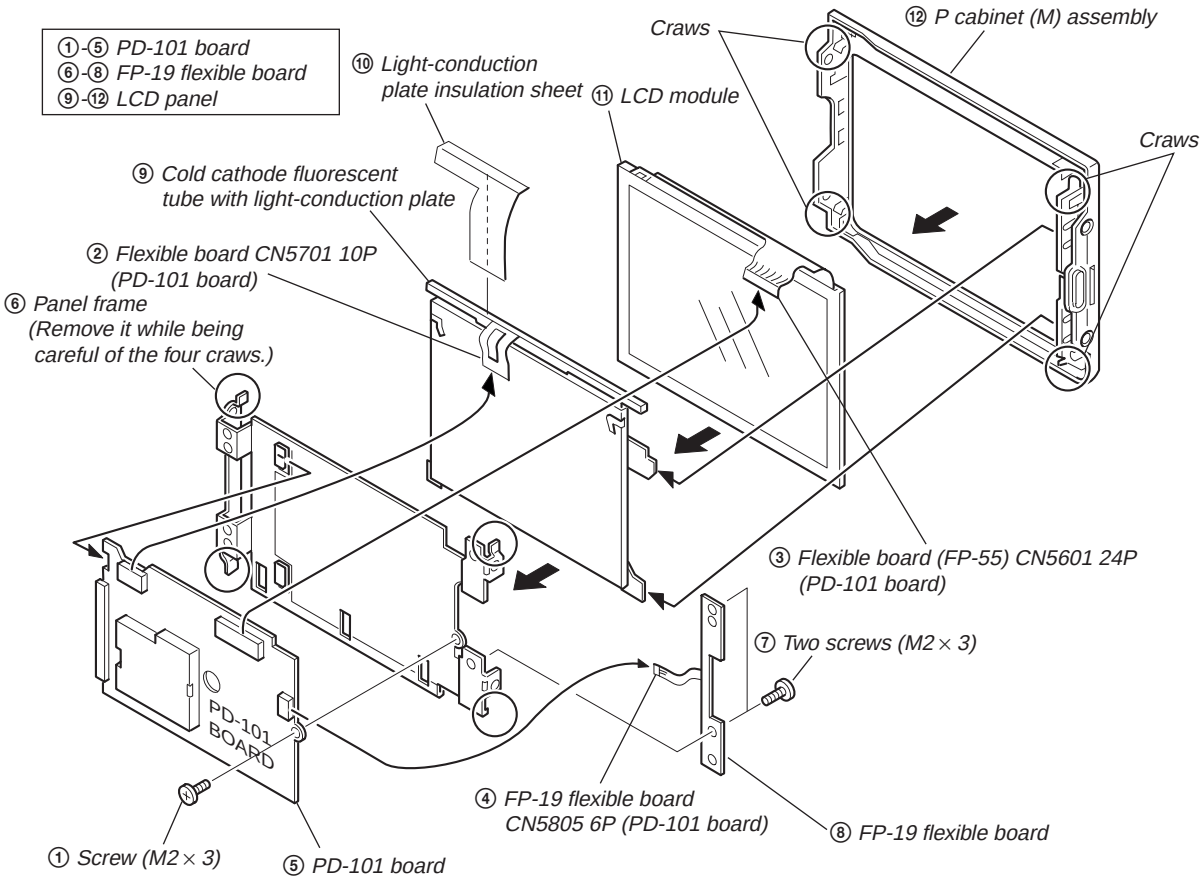
2-6. CK-80 BOARD


①-④ PM slider assembly
⑤-⑮ CK-80 board
⑯-⑲ Speaker
⑮ Card ejector (Slide it in the direction of the arrow.)
Insert the craw into the slider when re-assembling.
⑤ Two screws (M1.7 × 3)
⑥ Two screws (M1.7 × 3)
⑬ FP-9 flexible board CN7204 60P (CK-80 board)
① Screw (M2 × 3)
② PM cover
⑯ Two screws (M2 × 3)
⑰ Speaker fixing plate
⑱ Speaker
⑲ SP holder
⑧ CK-80 board
⑩ FP-16 flexible board CN7202 6P (CK-80 board)
⑦ Two screws (M1.7 × 3)
CK-80 BOARD
⑫ FP-13 flexible board CN7208 6P (CK-80 board)
LCD panel assembly
⑪ Remove the harness (CP-81, CP-82).
⑨ Remove the harness. (SP-156)
⑭ Four screws (M2 × 7)
④ PM slider assembly
③ Two screws (M2 × 3)

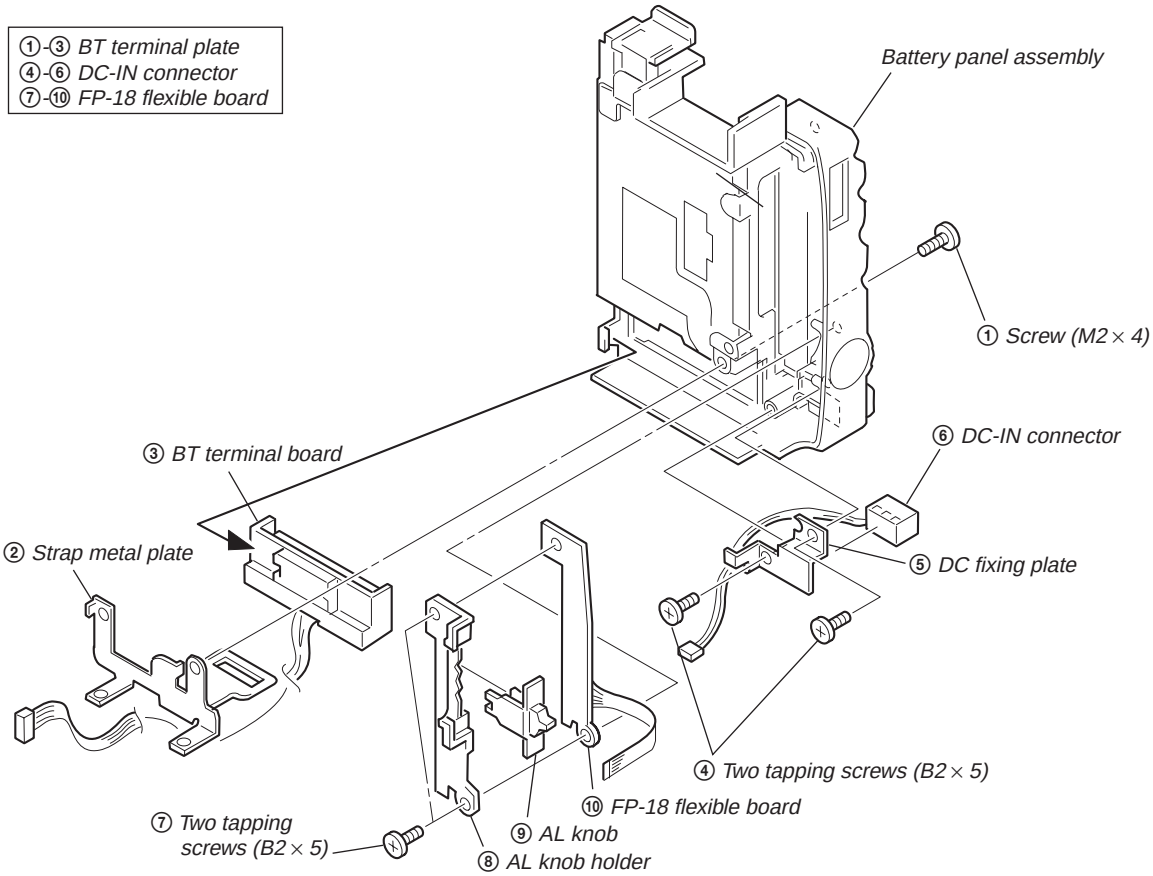
2-7. LCD PANEL ASSEMBLY, HINGE ASSEMBLY


①-⑧ LCD panel block
⑨-⑰ Hinge assembly
⑬ Hinge assembly (Remove it in the direction of the arrow ⓐ.)
⑪ Blind plate
⑩ LCD hinge lid
Craws
⑯ Hinge cover (rear) (Remove it while being careful of the craws.)
⑨ Three screws (M2 × 3)
⑭ Screw (M1.7 × 3)
Rotate it by 90 ° in the direction of the arrow ⓑ.
ⓑ
② Screw (M2 × 4)
Rotate it by 90 ° in the direction of the arrow ⓒ.
⑫ Three screws (M2 × 3)
ⓐ
⑦ Two screws (M2 × 3)
ⓒ
⑤ Remove the CP-81 harness.
⑰ Hinge cover (front)
ⓓ
③ Screw (M2 × 4)
PD-101 BOARD
⑥ Remove the CP-82 harness.
⑧ LCD panel block
Rotate it by 90 ° in the direction of the arrow ⓓ.
⑮ Two screws (M1.7 × 3)
① Two screws (M2 × 4)
④ P cabinet (C) assembly

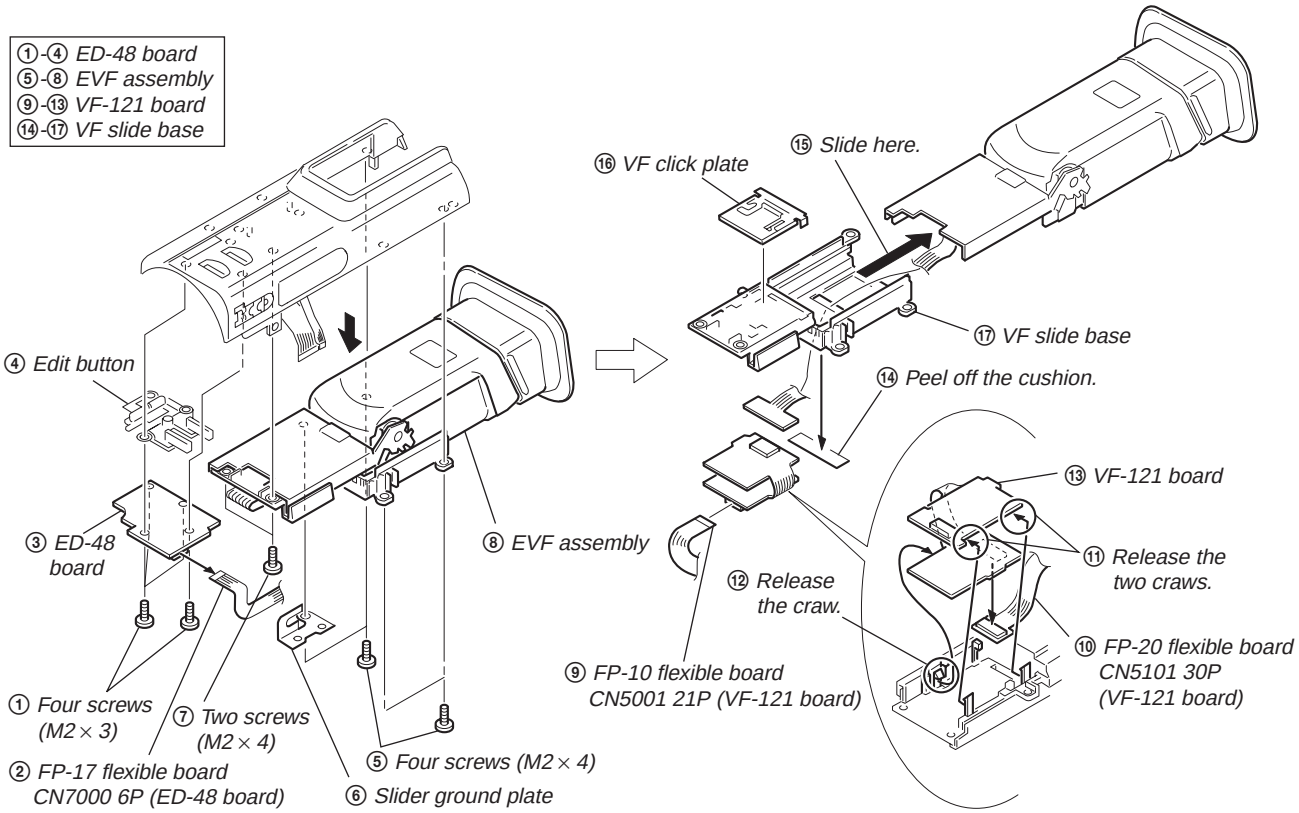
2-8. PD-101 BOARD


①-⑤ PD-101 board
⑥-⑧ FP-19 flexible board
⑨-⑫ LCD panel
⑫ P cabinet (M) assembly
Craws
⑩ Light-conduction plate insulation sheet
⑪ LCD module
Craws
⑨ Cold cathode fluorescent tube with light-conduction plate
② Flexible board CN5701 10P (PD-101 board)
⑥ Panel frame (Remove it while being careful of the four craws.)
③ Flexible board (FP-55) CN5601 24P (PD-101 board)
⑦ Two screws (M2 × 3)
PD-101 BOARD
④ FP-19 flexible board CN5805 6P (PD-101 board)
⑧ FP-19 flexible board
① Screw (M2 × 3)
⑤ PD-101 board

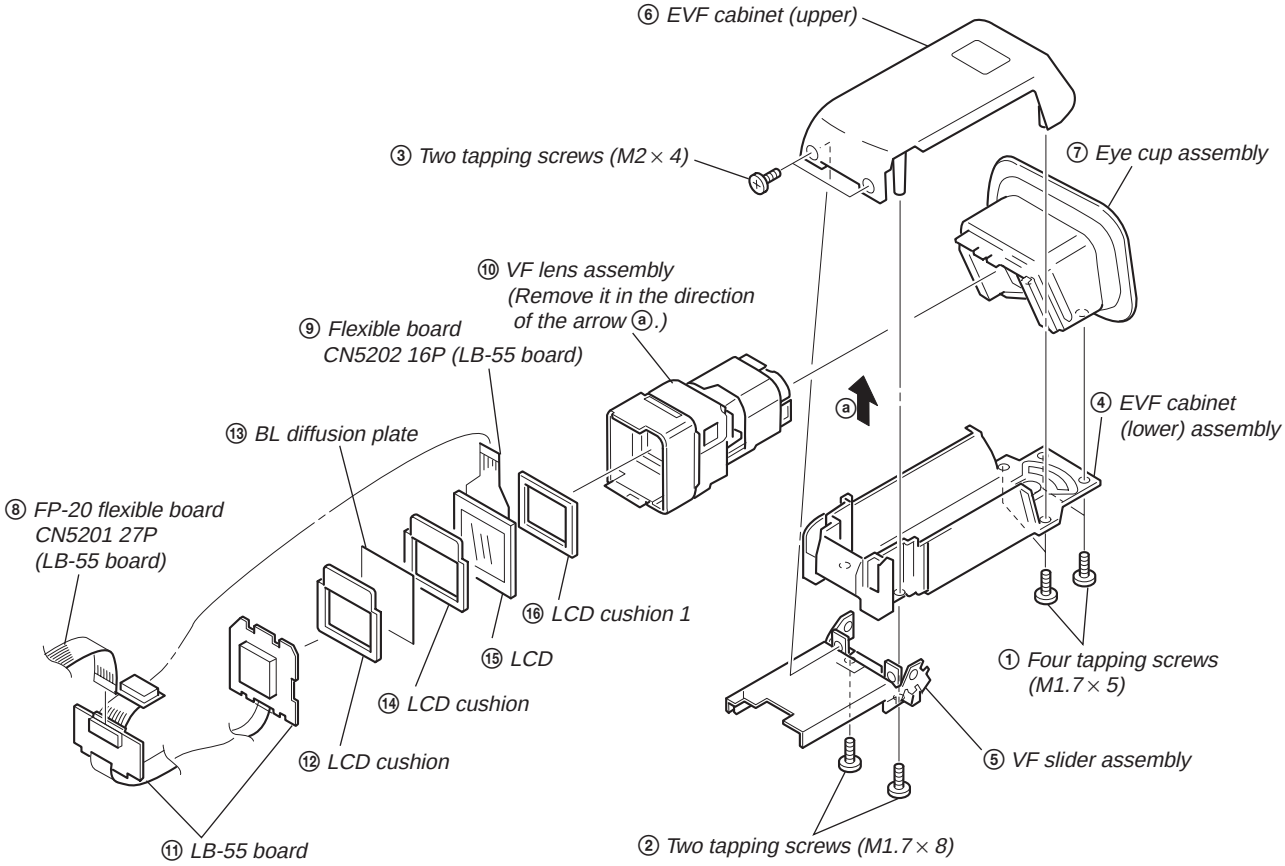
2-9. BT TERMINAL BOARD, DC-IN CONNECTOR


①-③ BT terminal plate
④-⑥ DC-IN connector
⑦-⑩ FP-18 flexible board
Battery panel assembly
① Screw (M2 × 4)
⑥ DC-IN connector
③ BT terminal board
② Strap metal plate
⑤ DC fixing plate
④ Two tapping screws (B2 × 5)
⑩ FP-18 flexible board
⑦ Two tapping screws (B2 × 5)
⑨ AL knob
⑧ AL knob holder

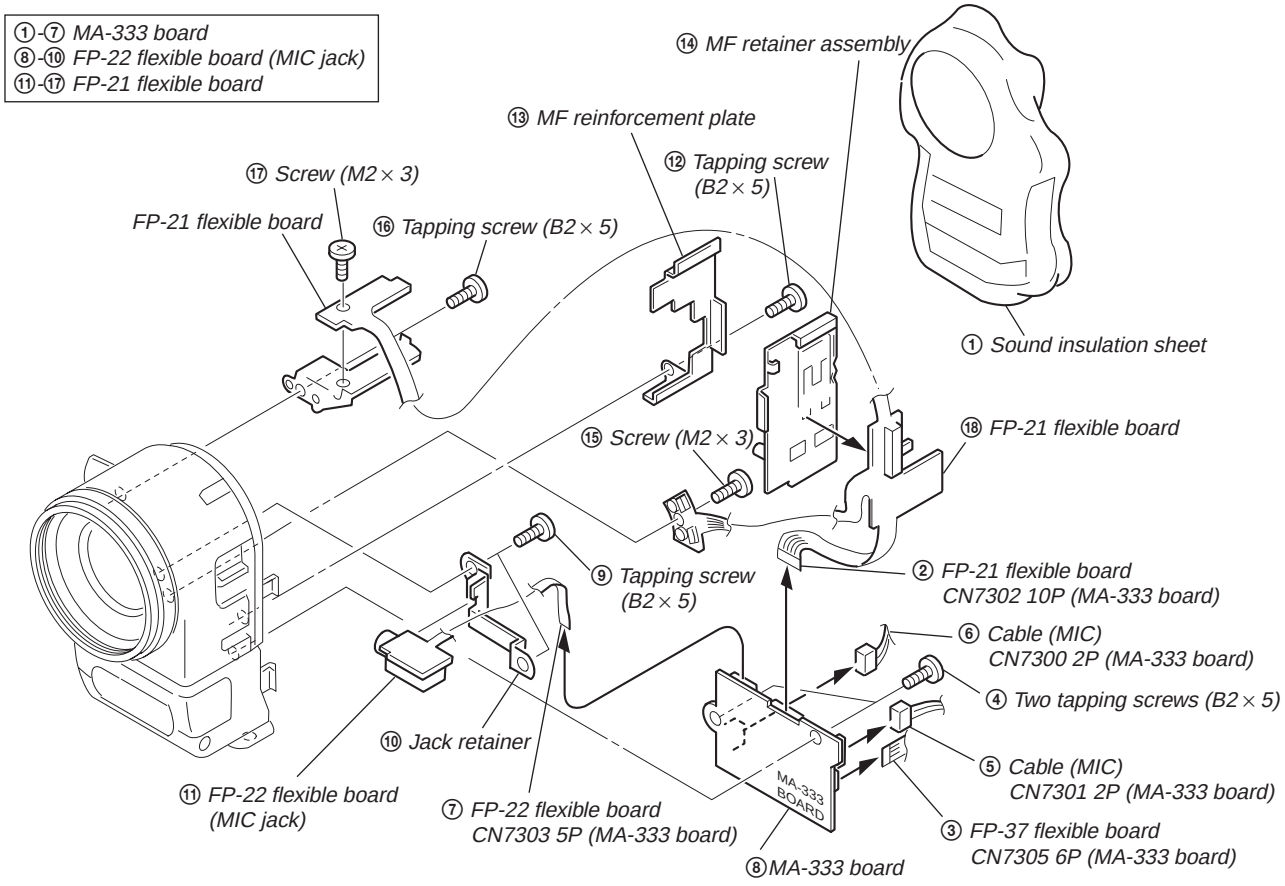
2-10. ED-48, VF-121 BOARDS


①-④ ED-48 board
⑤-⑧ EVF assembly
⑨-⑬ VF-121 board
⑭-⑰ VF slide base
⑯ VF click plate
⑮ Slide here.
⑰ VF slide base
④ Edit button
⑭ Peel off the cushion.
⑬ VF-121 board
③ ED-48 board
⑧ EVF assembly
⑪ Release the two craws.
⑫ Release the craw.
⑩ FP-20 flexible board CN5101 30P (VF-121 board)
⑨ FP-10 flexible board CN5001 21P (VF-121 board)
① Four screws (M2 × 3)
⑦ Two screws (M2 × 4)
⑤ Four screws (M2 × 4)
② FP-17 flexible board CN7000 6P (ED-48 board)
⑥ Slider ground plate

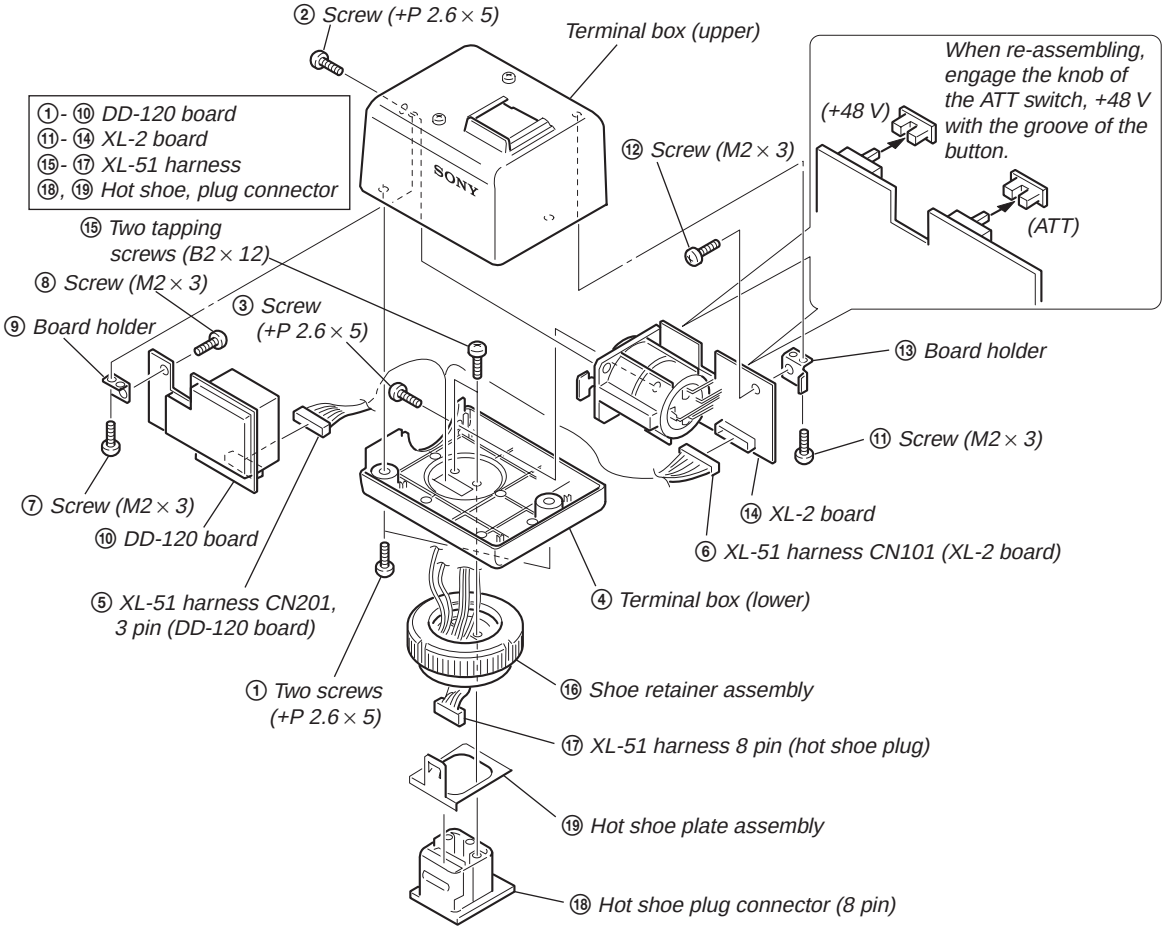
2-11. LB-55 BOARD


⑥ EVF cabinet (upper)
③ Two tapping screws (M2 × 4)
⑦ Eye cup assembly
⑩ VF lens assembly (Remove it in the direction of the arrow ⓐ.)
⑨ Flexible board CN5202 16P (LB-55 board)
ⓐ
④ EVF cabinet (lower) assembly
⑬ BL diffusion plate
⑧ FP-20 flexible board CN5201 27P (LB-55 board)
⑯ LCD cushion 1
⑮ LCD
⑭ LCD cushion
① Four tapping screws (M1.7 × 5)
⑫ LCD cushion
⑤ VF slider assembly
⑪ LB-55 board
② Two tapping screws (M1.7 × 8)

2-12. MA-333 BOARD

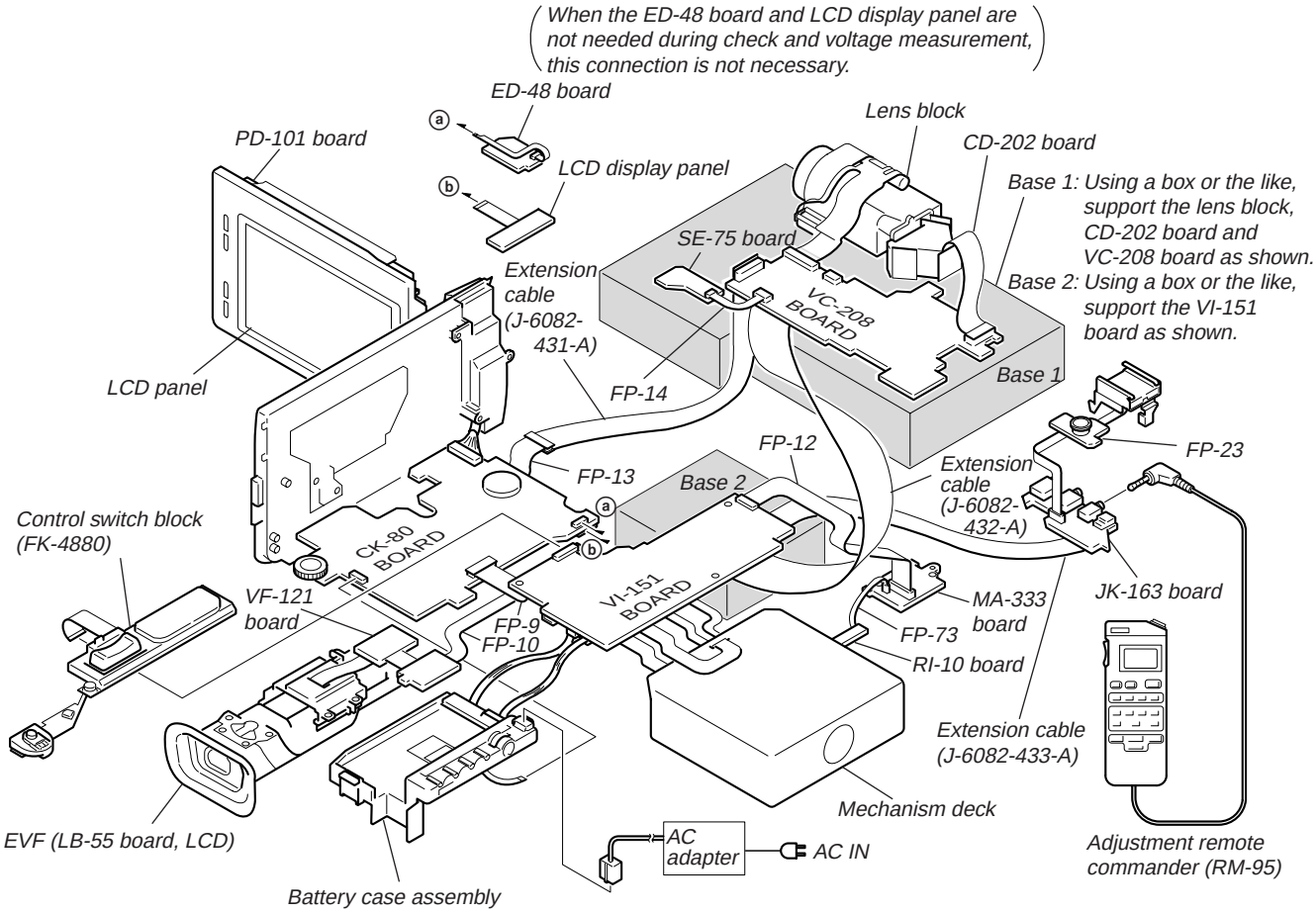

①-⑦ MA-333 board
⑧-⑩ FP-22 flexible board (MIC jack)
⑪-⑰ FP-21 flexible board
⑭ MF retainer assembly
⑬ MF reinforcement plate
⑫ Tapping screw (B2 × 5)
⑰ Screw (M2 × 3)
FP-21 flexible board
⑯ Tapping screw (B2 × 5)
① Sound insulation sheet
⑱ FP-21 flexible board
⑮ Screw (M2 × 3)
⑨ Tapping screw (B2 × 5)
② FP-21 flexible board CN7302 10P (MA-333 board)
⑥ Cable (MIC) CN7300 2P (MA-333 board)
④ Two tapping screws (B2 × 5)
⑩ Jack retainer
⑤ Cable (MIC) CN7301 2P (MA-333 board)
⑪ FP-22 flexible board (MIC jack)
⑦ FP-22 flexible board CN7303 5P (MA-333 board)
③ FP-37 flexible board CN7305 6P (MA-333 board)
⑧ MA-333 board
MA-333 BOARD

2-13. DD-120, XL-2 BOARDS

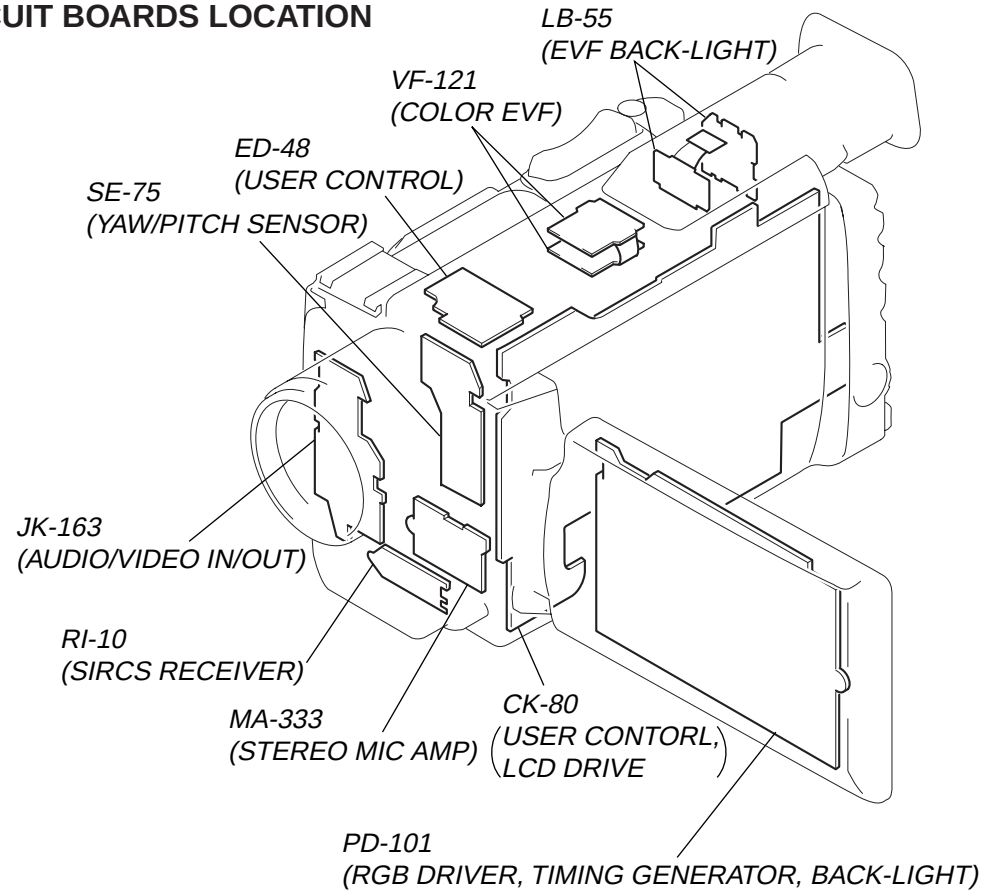

② Screw (+P 2.6 × 5)
Terminal box (upper)
①- ⑩ DD-120 board
⑪- ⑭ XL-2 board
⑮- ⑰ XL-51 harness
⑱, ⑲ Hot shoe, plug connector
When re-assembling, engage the knob of the ATT switch, +48 V with the groove of the button.
(+48 V)
(ATT)
⑫ Screw (M2 × 3)
⑮ Two tapping screws (B2 × 12)
⑧ Screw (M2 × 3)
③ Screw (+P 2.6 × 5)
⑨ Board holder
⑬ Board holder
⑪ Screw (M2 × 3)
⑦ Screw (M2 × 3)
⑩ DD-120 board
⑭ XL-2 board
⑥ XL-51 harness CN101 (XL-2 board)
⑤ XL-51 harness CN201, 3 pin (DD-120 board)
④ Terminal box (lower)
① Two screws (+P 2.6 × 5)
⑯ Shoe retainer assembly
⑰ XL-51 harness 8 pin (hot shoe plug)
⑲ Hot shoe plate assembly
⑱ Hot shoe plug connector (8 pin)
SONY

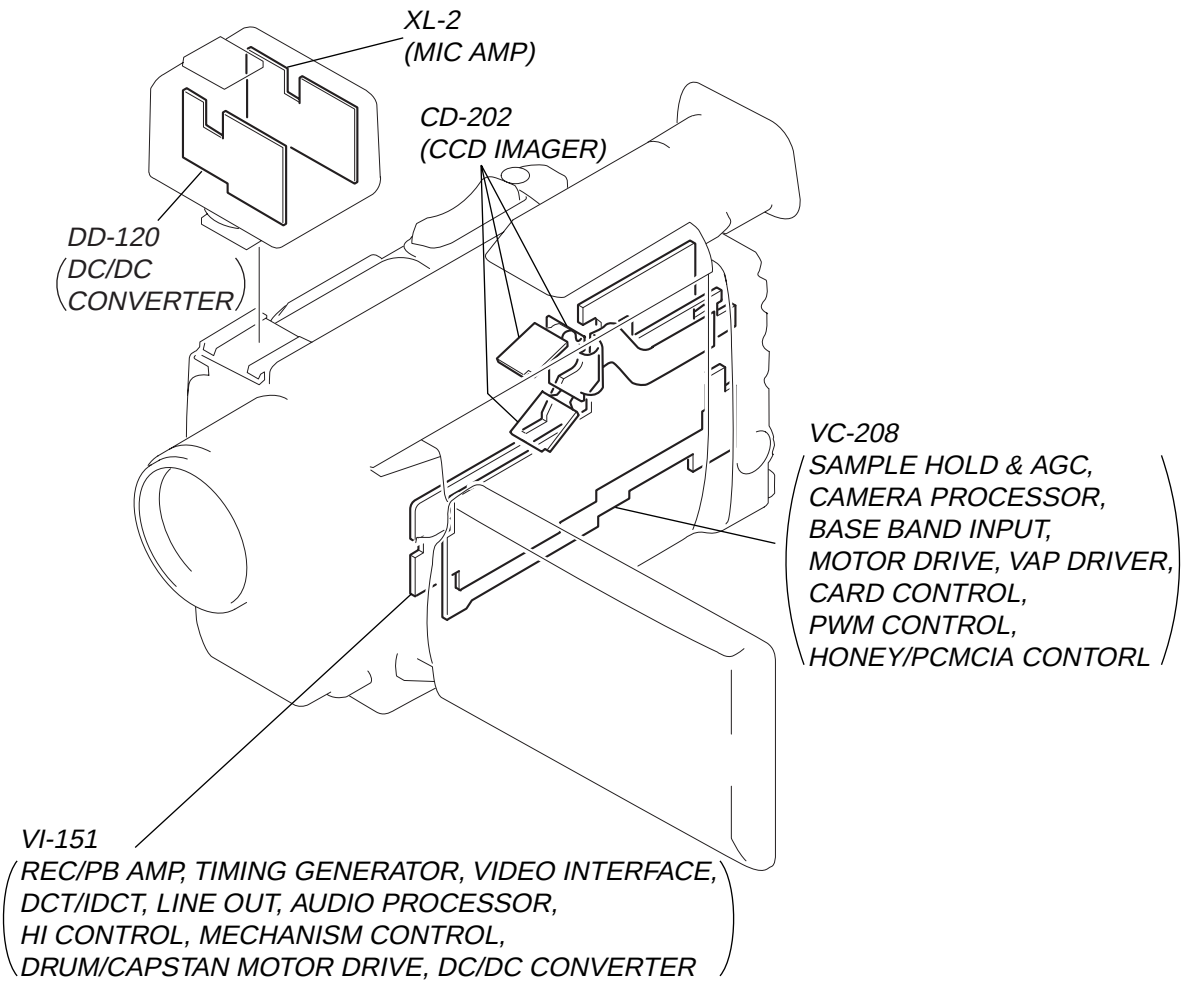
2-14. SERVICE POSITION (Mainly for check and voltage measurement)

Firstly, remove the following parts referring to DISASSEMBLY (sections 2-1 to 2-6, 2-10 and 2-12), and connect parts as shown below.

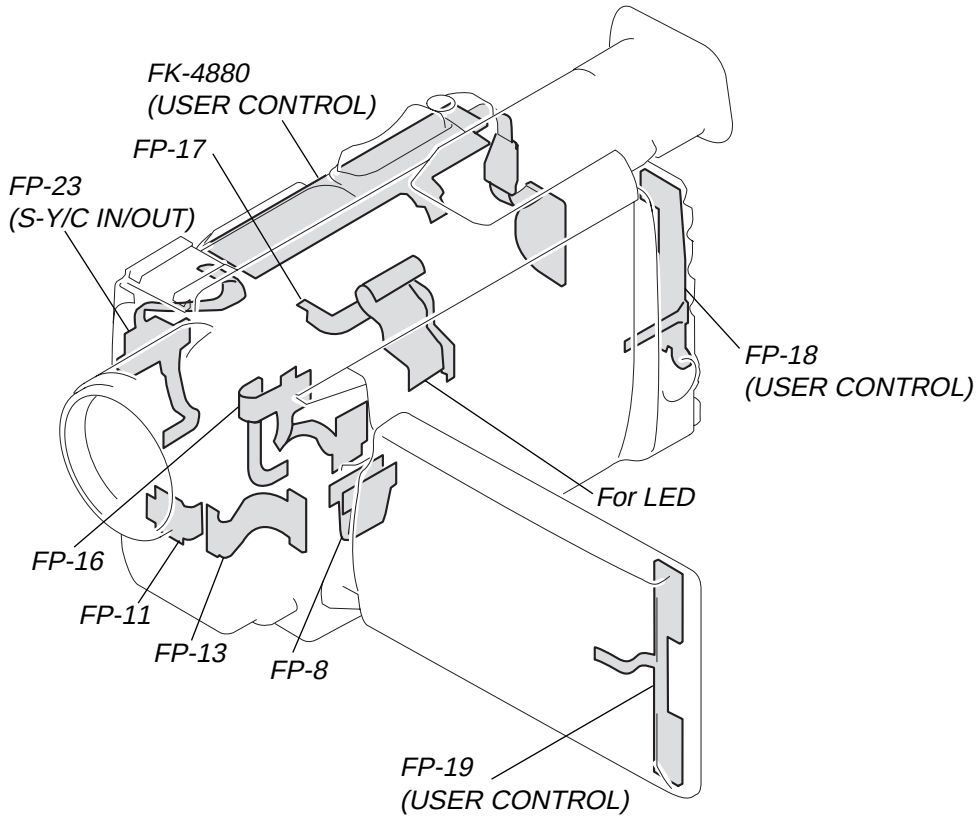


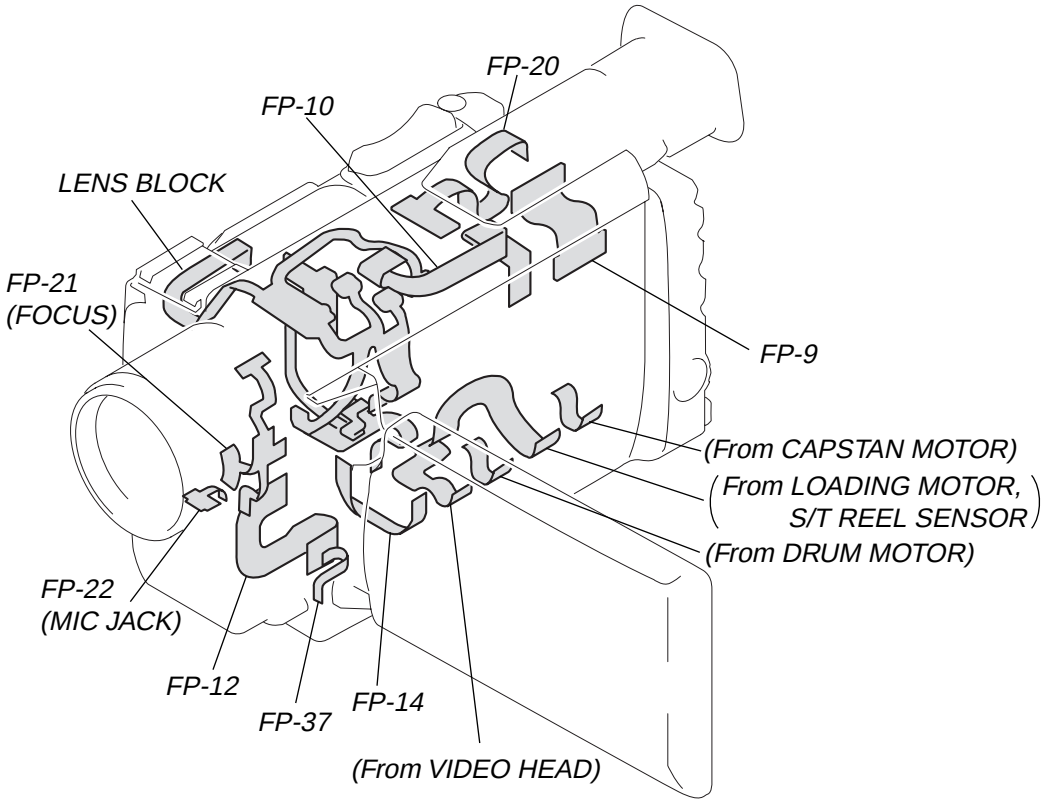
2-15. CIRCUIT BOARDS LOCATION





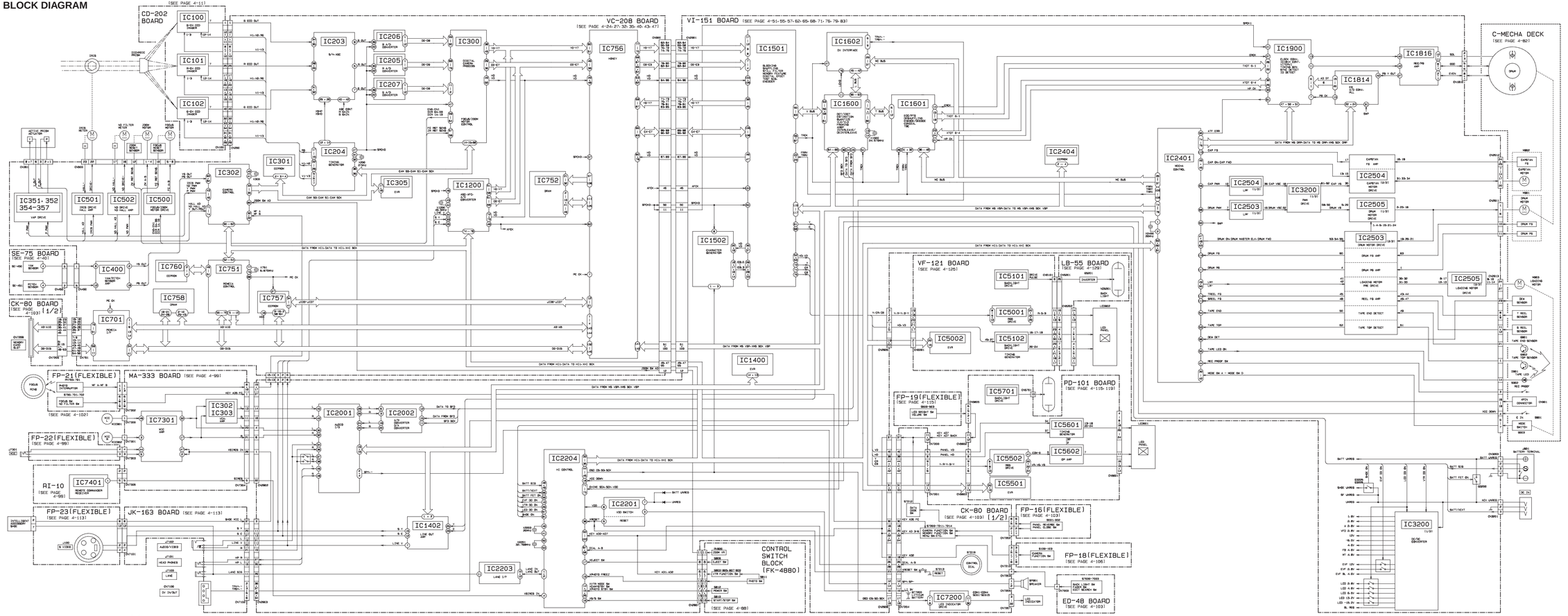
2-16. FLEXIBLE BOARDS LOCATION



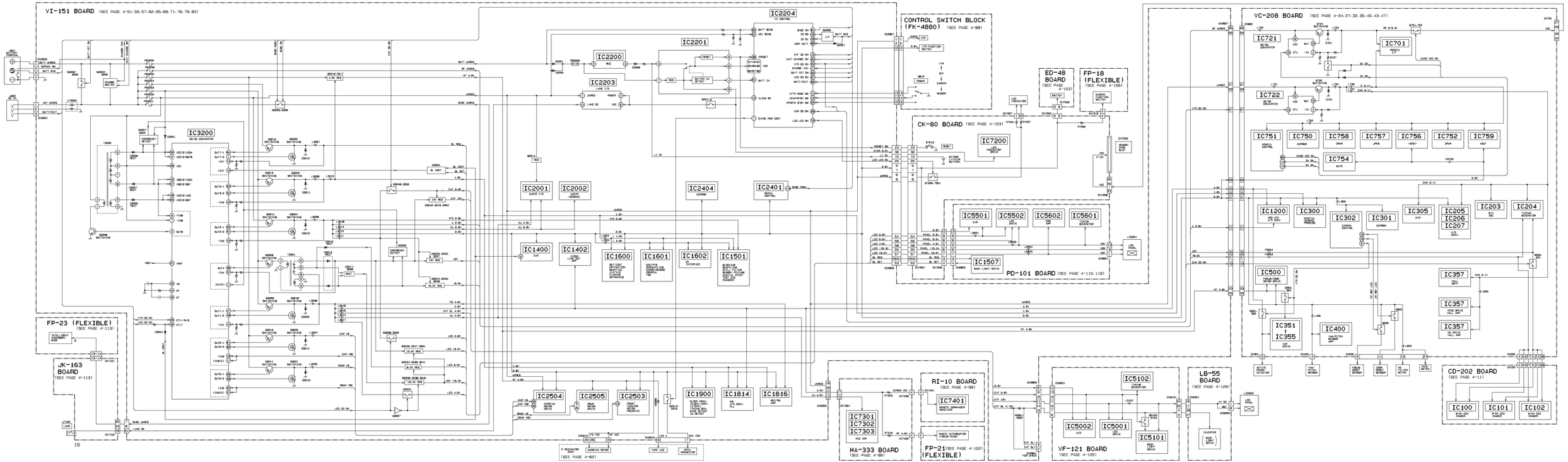


SECTION 3
BLOCK DIAGRAMS

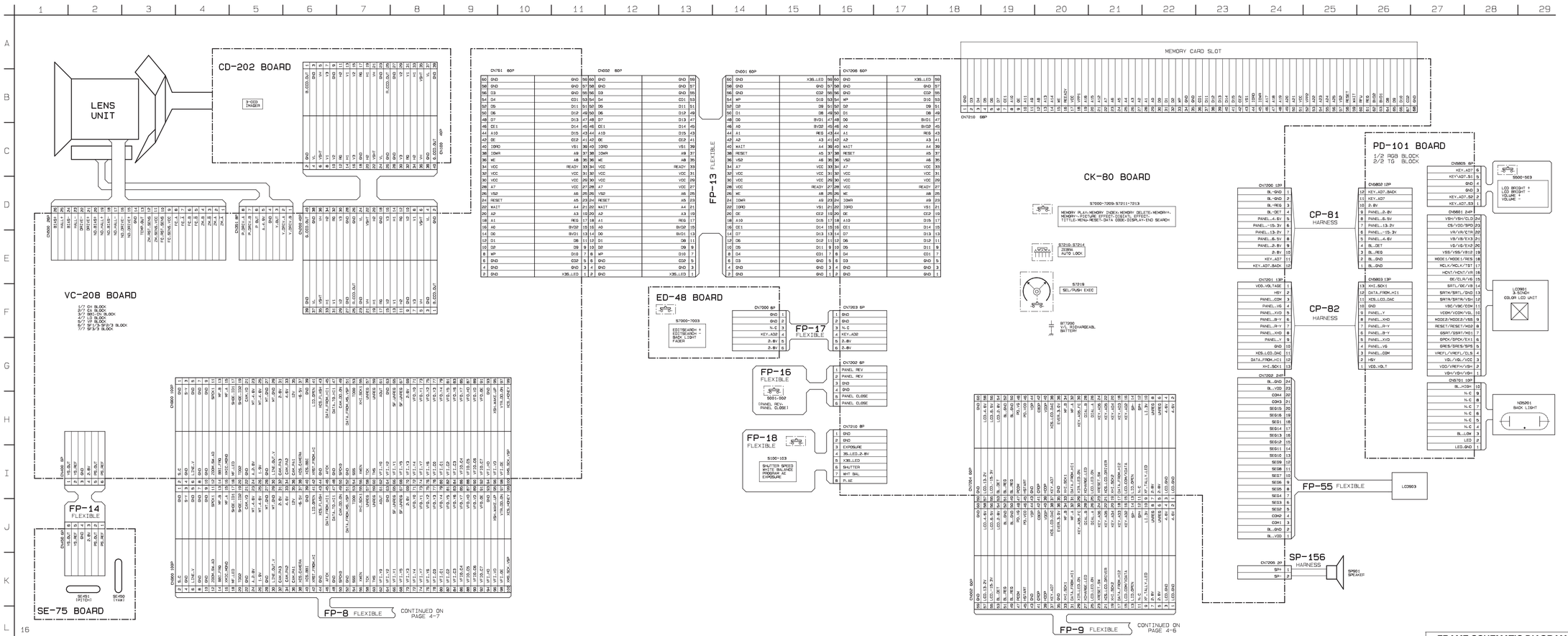
3-1. OVERALL BLOCK DIAGRAM



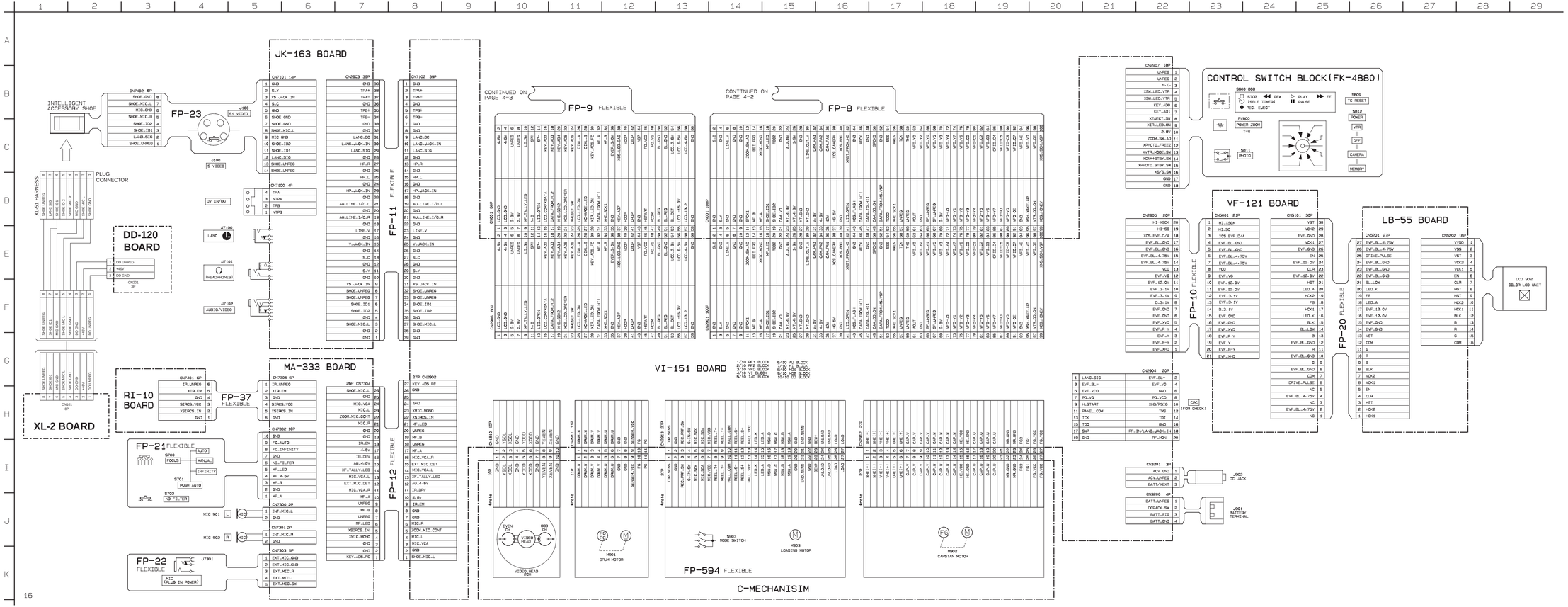
3-2. POWER BLOCK DIAGRAM



4-1. FRAME SCHEMATIC DIAGRAM-1


CD-202 BOARD
LENS UNIT
3-CCD IMAGER
VC-208 BOARD
1/7 CH BLOCK
2/7 CA BLOCK
3/7 SW1/CN BLOCK
4/7 LD BLOCK
5/7 VC BLOCK
6/7 SF1/3/SF2/3 BLOCK
7/7 SF3/3 BLOCK
ED-48 BOARD
S7000-7003
EDIT/SEARCH +
EDIT/SEARCH -
PANEL LIGHT
FADER
CK-80 BOARD
S7000-7209 S7211-7213
MEMORY PLAY+/MEMORY INDEX+/MEMORY DELETE/MEMORY+,
MEMORY-/PICTURE EFFECT-DIGITAL EFFECT-
TITTLE/MENU/RESET/DATA CODE/DISPLAY/END SEARCH
S7210 S7214
ZEBRA
AUTO LOCK
S7218
SEL/PUSH EXEC
BT7900
3V LITHIUM/AREA BATTERY
PD-101 BOARD
1/2 RGB BLOCK
2/2 TG BLOCK
MEMORY CARD SLOT
CP-81
HARNESS
CP-82
HARNESS
SP-156
HARNESS
SP001
SPEAKER
LCD901
3.5INCH
COLOR LCD UNIT
LCD BRIGHT +
LCD BRIGHT -
VOLUME -
N2520:
BACK LIGHT
SE-75 BOARD
SE-851
(PITCH)
SE-852
(YAW)
FP-8 FLEXIBLE
CONTINUED ON
PAGE 4-7
FP-9 FLEXIBLE
CONTINUED ON
PAGE 4-6
FP-13 FLEXIBLE
FP-14
FLEXIBLE
FP-15
FLEXIBLE
FP-16
FLEXIBLE
S001-002
PANEL REV.
PANEL CLOSE1
FP-17
FLEXIBLE
FP-18
FLEXIBLE
S100-103
SHUTTER SPEED
WHITE BALANCE
PANEL CLOSE2
EXPOSURE
FP-55 FLEXIBLE
LCD903
CN7000 60P
CN7001 60P
CN7006 60P
CN7007 60P
CN7200 12P
CN7201 13P
CN7202 24P
CN7205 2P
CN7206 60P
CN7210 68P
CN7301 60P
CN7302 60P
CN7303 6P
CN7304 6P
CN7305 6P
CN7306 6P
CN7307 6P
CN7308 6P
CN7309 6P
CN7310 6P
CN7311 6P
CN7312 6P
CN7313 6P
CN7314 6P
CN7315 6P
CN7316 6P
CN7317 6P
CN7318 6P
CN7319 6P
CN7320 6P
CN7321 6P
CN7322 6P

FRAME SCHEMATIC DIAGRAM-2

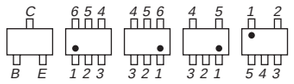


4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

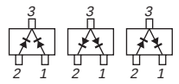
THIS NOTE IS COMMON FOR WIRING BOARDS AND SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For printed wiring boards)
- ▒▒▒: Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated.)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are few cases that the part printed on diagram isn't mounted in this model.
- Chip parts.

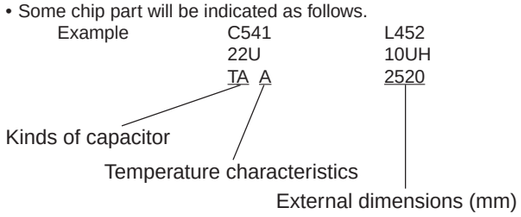
Transistor



Diode



(For schematic diagrams)
- All capacitors are in μF unless otherwise noted. pF : μμF. 50V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10W unless otherwise noted.
  kΩ=1000Ω, MΩ=1000kΩ.
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.



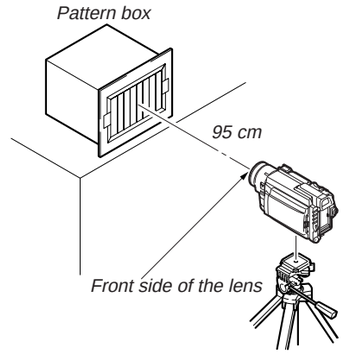
- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
  In such cases, the unused circuits may be indicated.
- Parts with ★ differ according to the model/destination.
  Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
- : non flammable resistor
- : fusible resistor
- : panel designation
- : B+ Line *
- : B– Line *
- : IN/OUT direction of (+,–) B LINE. *
- : adjustment for repair. *
- Circled numbers refer to waveforms. *

* Indicated by the color red.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(Measuring conditions voltage and waveform)
- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms. *
  (VOM of DC 10 MW input impedance is used.).
- Voltage values change depending upon input impedance of VOM used.)

1. Connection



2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

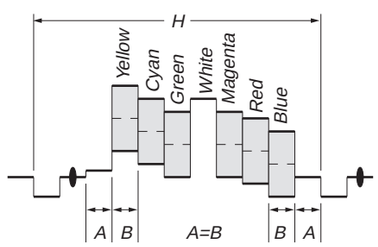


Fig. a (Video output terminal output waveform)

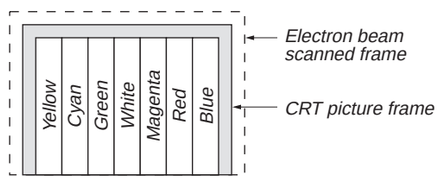


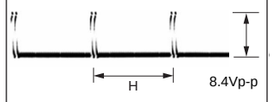
Fig.b (Picture on monitor TV)

3. • The LINE REC waveform shows the waveform when the color for signal (video signal) is input from a color bar pattern.
   • The LINE OUT waveform shows the waveform when the signals are connected to the S-VIDEO and VIDEO/AUDIO jacks but not to other jacks.

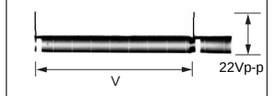
When indicating parts by reference number, pleas include the board name.

CD-202 BOARD
CAMERA REC

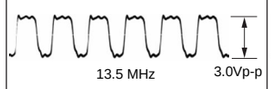
① IC100 ①, ②
IC101 ①, ②
IC102 ①, ②



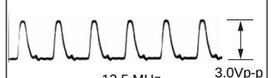
② IC100 ③, IC101 ③
IC102 ③



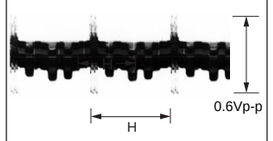
③ IC100 ⑬, ⑭
IC101 ⑬, ⑭
IC102 ⑬, ⑭



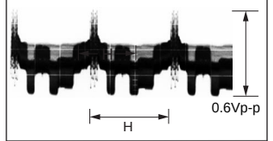
④ IC100 ⑫, IC101 ⑫
IC102 ⑫



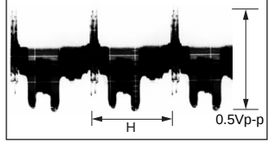
⑤ Q101 Ⓔ

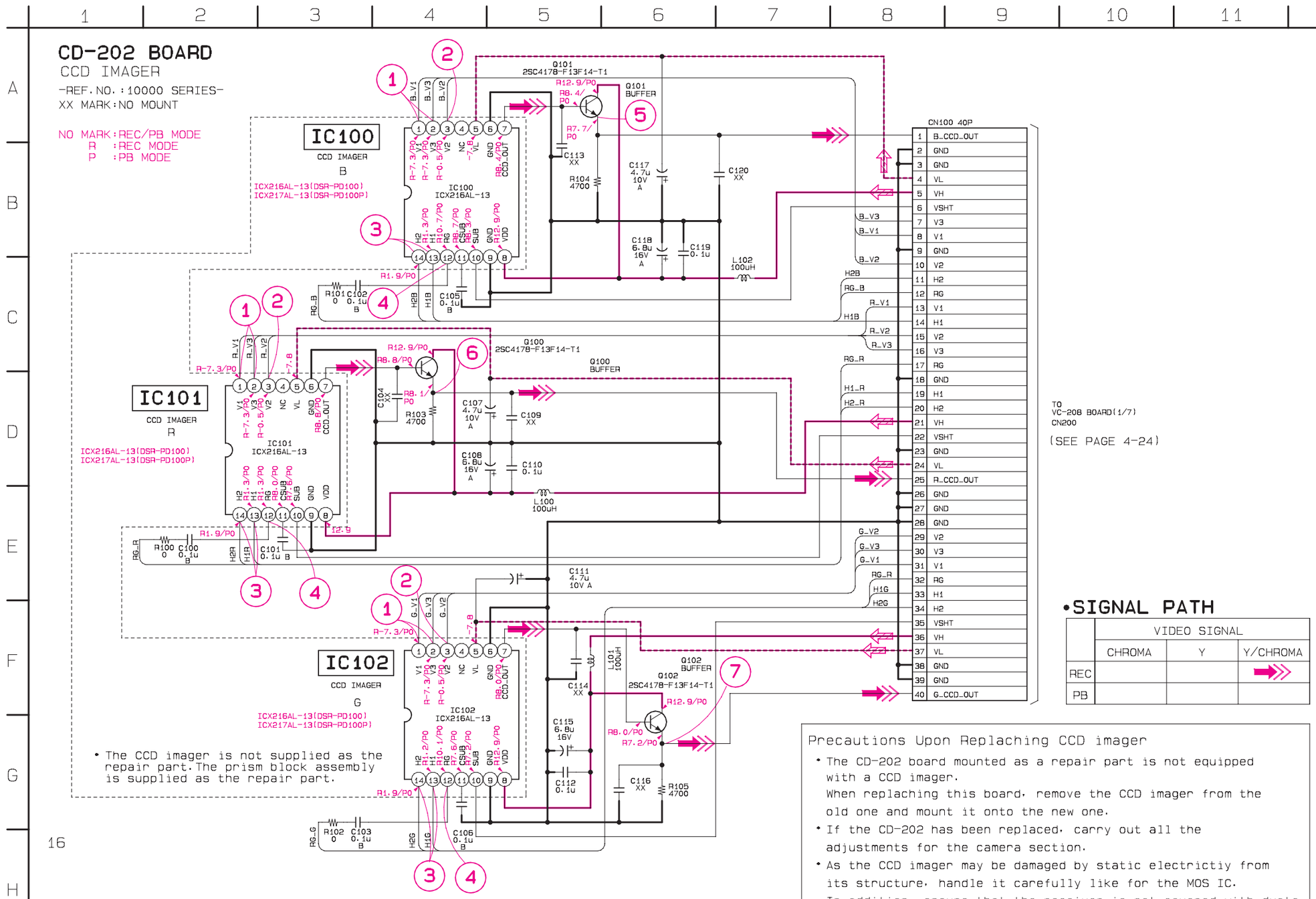


⑥ Q100 Ⓔ



⑦ Q102 Ⓔ





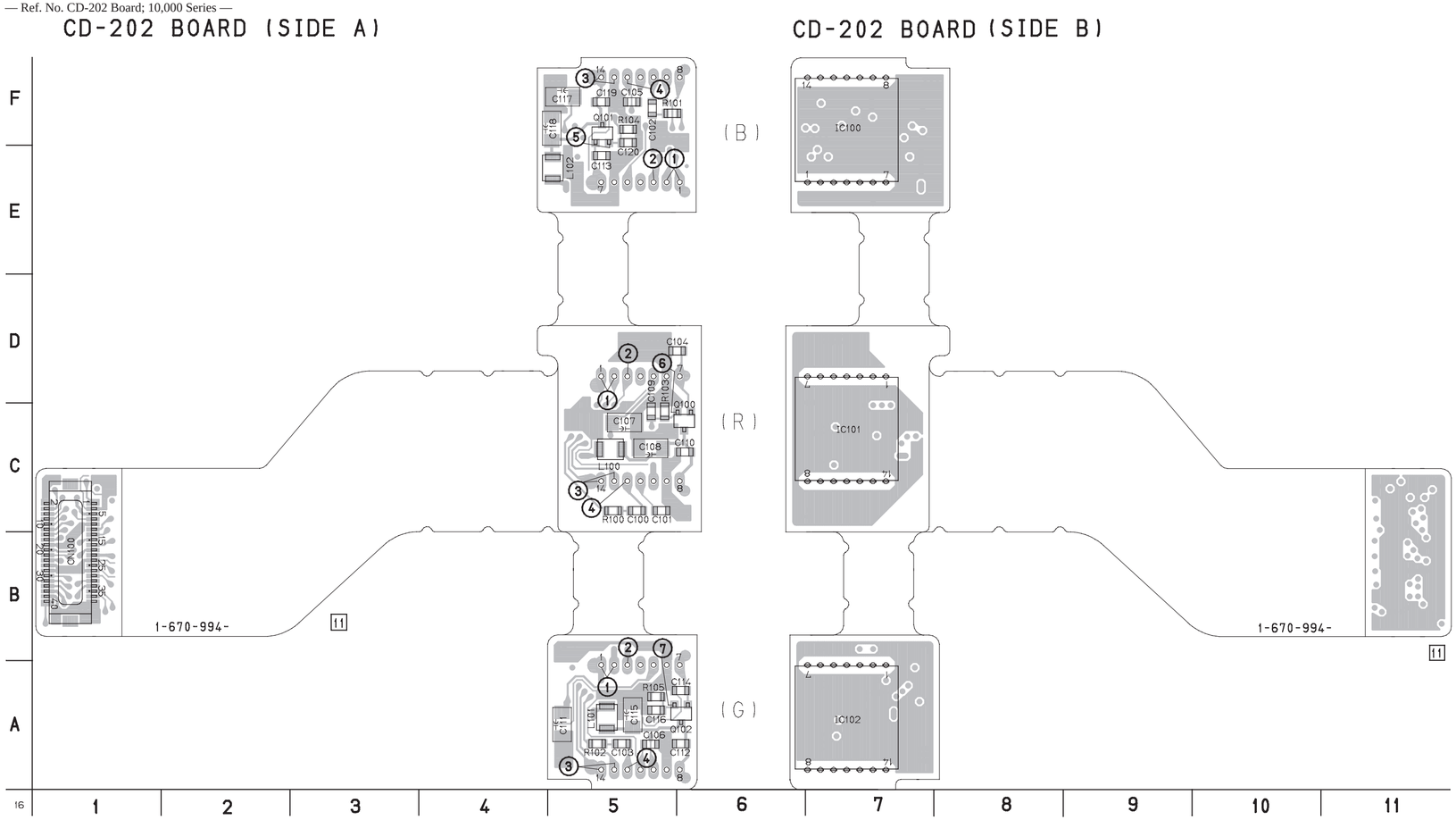
•SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			➡
PB			

Precautions Upon Replaching CCD imager

- The CD-202 board mounted as a repair part is not equipped with a CCD imager.
  When replaching this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CD-202 has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electrictiy from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strog light.

CD-202 (CCD IMAGER) PRINTED WIRING BOARD
— Ref. No. CD-202 Board; 10,000 Series —



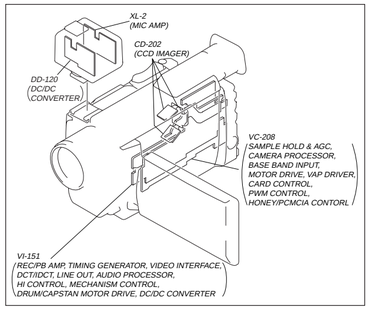
CD-202 BOARD

C100	C-5	CN100	B-1
C101	C-5		
C102	F-5	IC100	F-7
C103	A-5	IC101	C-7
C104	D-5	IC102	A-7
C105	F-5		
C106	A-5	L100	C-5
C107	C-5	L101	A-5
C108	C-5	L102	E-5
C109	C-5		
C110	C-6	Q100	C-6
C111	A-5	Q101	F-5
C112	A-6	Q102	A-6
C113	E-5		
C114	A-6	R100	C-5
C115	A-5	R101	F-5
C116	A-5	R102	A-5
C117	F-5	R103	C-5
C118	F-5	R104	F-5
C119	F-5	R105	A-5
C120	E-5		

For printed wiring boards
- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor

There are few cases that the part printed on this diagram isn't mounted in this model.

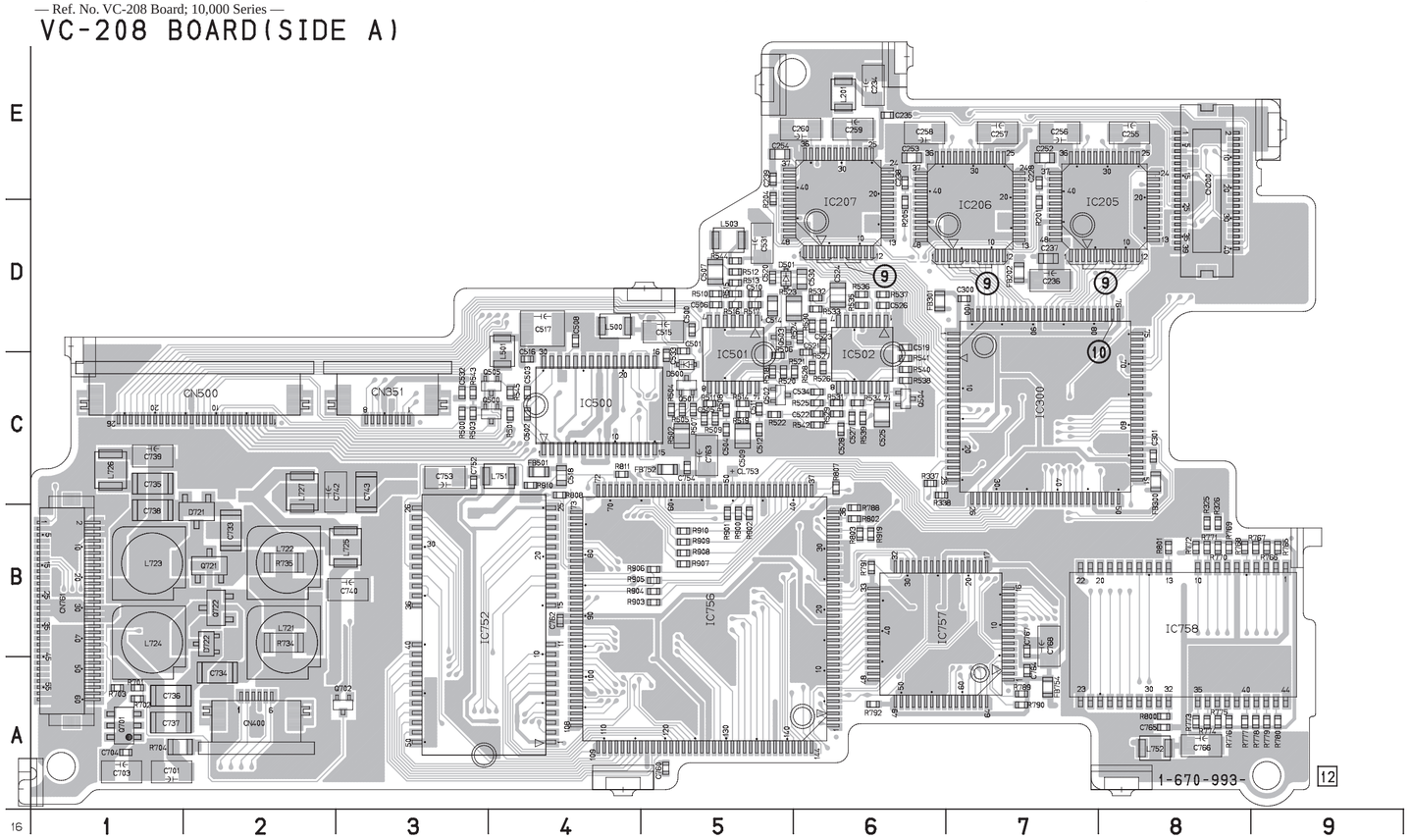


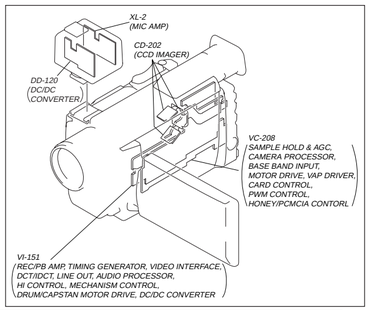
VC-208 (SAMPLE HOLD & AGC, CAMERA PROCESSOR, BASE BAND INPUT, MOTOR DRIVE, VAP DRIVER, CARD CONTROL, PWM CONTROL, HONEY, PCMCIA CONTROL) PRINTED WIRING BOARD

— Ref. No. VC-208 Board; 10,000 Series —

VC-208 BOARD (SIDE A)

C228	E-7	C531	D-5	IC205	D-8	R502	C-5	R734	B-2
C234	E-6	C532	C-3	IC206	D-7	R503	C-3	R735	B-2
C235	E-6	C533	C-5	IC207	D-6	R504	C-5	R765	B-9
C236	D-7	C534	C-6	IC300	C-7	R505	C-5	R766	B-9
C237	D-7	C701	A-1	IC500	C-4	R506	C-5	R767	B-9
C238	E-6	C703	A-1	IC501	C-5	R507	C-5	R768	B-8
C239	E-5	C704	A-1	IC502	C-6	R508	C-5	R769	B-8
C252	E-7	C733	B-2	IC752	B-3	R509	C-5	R770	B-8
C253	E-6	C734	A-2	IC756	B-5	R510	D-5	R771	B-8
C254	E-5	C735	C-1	IC757	B-6	R511	C-5	R772	B-8
C255	E-8	C736	A-1	IC758	B-8	R512	D-5	R773	A-8
C256	E-7	C737	A-1			R513	D-5	R774	A-8
C257	E-7	C738	B-1	L201	E-6	R514	C-5	R775	A-8
C258	E-6	C739	C-1	L500	D-4	R515	D-5	R776	A-8
C259	E-6	C740	B-3	L501	C-4	R516	D-5	R777	A-8
C260	E-6	C742	C-2	L503	D-5	R517	D-5	R778	A-9
C300	D-7	C743	C-3	L721	B-2	R518	C-5	R779	A-9
C301	C-8	C752	C-3	L722	B-2	R519	C-5	R780	A-9
C500	D-5	C753	C-3	L723	B-1	R520	C-5	R788	B-6
C501	C-5	C754	C-5	L723	C-2	R521	C-5	R789	A-7
C502	C-4	C760	A-5	L724	B-1	R522	C-5	R790	A-7
C503	C-4	C762	B-4	L725	B-3	R523	D-5	R791	B-6
C504	C-5	C763	C-5	L726	C-1	R524	D-6	R792	A-6
C505	C-5	C764	A-7	L727	C-2	R525	C-6	R800	A-8
C506	D-5	C765	A-8	L751	C-4	R526	C-6	R801	B-8
C507	D-5	C766	A-8	L752	A-8	R528	C-6	R802	B-6
C508	D-4	C767	B-7			R529	C-6	R803	B-6
C509	C-5	C768	B-7	Q500	C-4	R530	D-6	R807	C-6
C510	D-5			Q501	C-5	R531	C-6	R808	C-4
C511	C-5	CN200	E-8	Q502	C-5	R532	D-6	R810	C-4
C512	C-5	CN351	C-3	Q503	D-5	R533	D-6	R811	C-4
C514	D-5	CN400	A-2	Q504	C-6	R534	C-6	R900	B-5
C515	D-5	CN500	C-2	Q505	C-4	R535	D-6	R901	B-5
C516	C-4	CN761	B-1	Q701	A-1	R536	D-6	R902	B-5
C517	D-4			Q702	A-3	R537	D-6	R903	B-5
C518	C-4	D500	C-5	Q721	B-2	R538	C-6	R904	B-5
C519	D-5	D501	D-5	Q722	B-2	R539	C-6	R905	B-5
C520	D-5	D721	B-2			R540	C-6	R906	B-5
C521	C-6	D722	B-2	R201	D-7	R541	C-6	R907	B-5
C522	C-6			R204	D-5	R542	C-6	R908	B-5
C523	D-6	FB202	D-7	R205	D-6	R543	C-3	R909	B-5
C524	D-6	FB300	C-8	R325	B-8	R544	D-5	R910	B-5
C525	C-6	FB301	D-6	R326	B-8	R545	C-4	R919	B-6
C526	D-6	FB501	C-4	R337	C-6	R701	A-1		
C527	C-6	FB752	C-5	R338	C-6	R702	A-1		
C528	C-6	FB754	A-7	R500	C-3	R703	A-1		
C530	D-6			R501	C-4	R704	A-1		

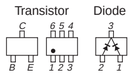




For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

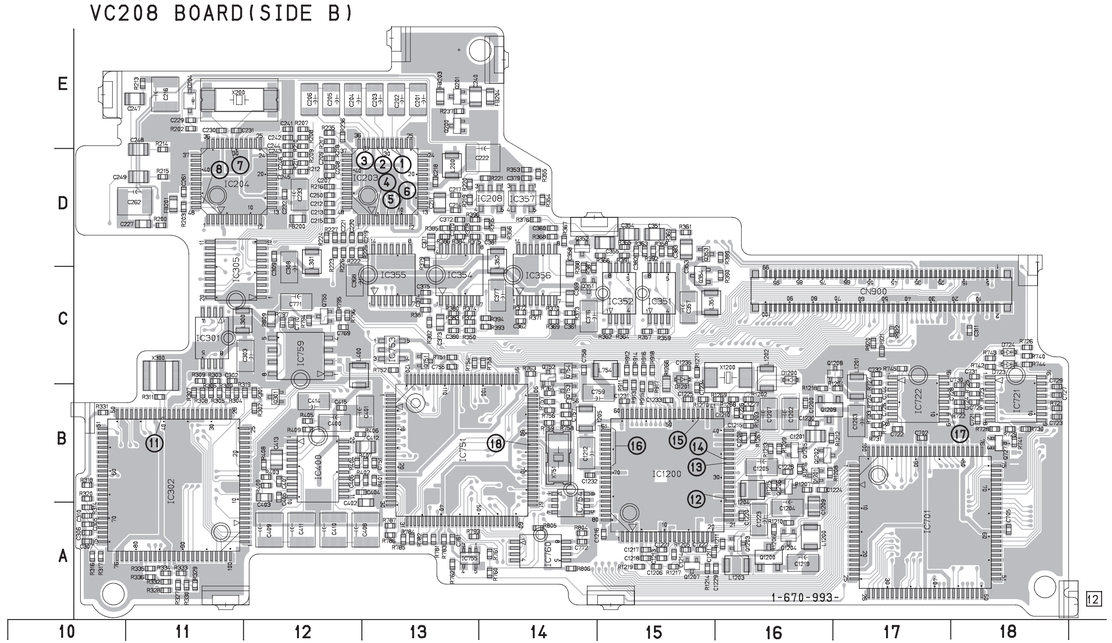
Transistor Diode



There are few cases that the part printed on this diagram isn't mounted in this model.

VC-208 (SAMPLE HOLD & AGC, CAMERA PROCESSOR, BASE BAND INPUT, MOTOR DRIVE, VAP DRIVER, CARD CONTROL, PWM CONTROL, HONEY, PCMCIA CONTROL) PRINTED WIRING BOARD

— Ref. No. VC-208 Board; 10,000 Series —



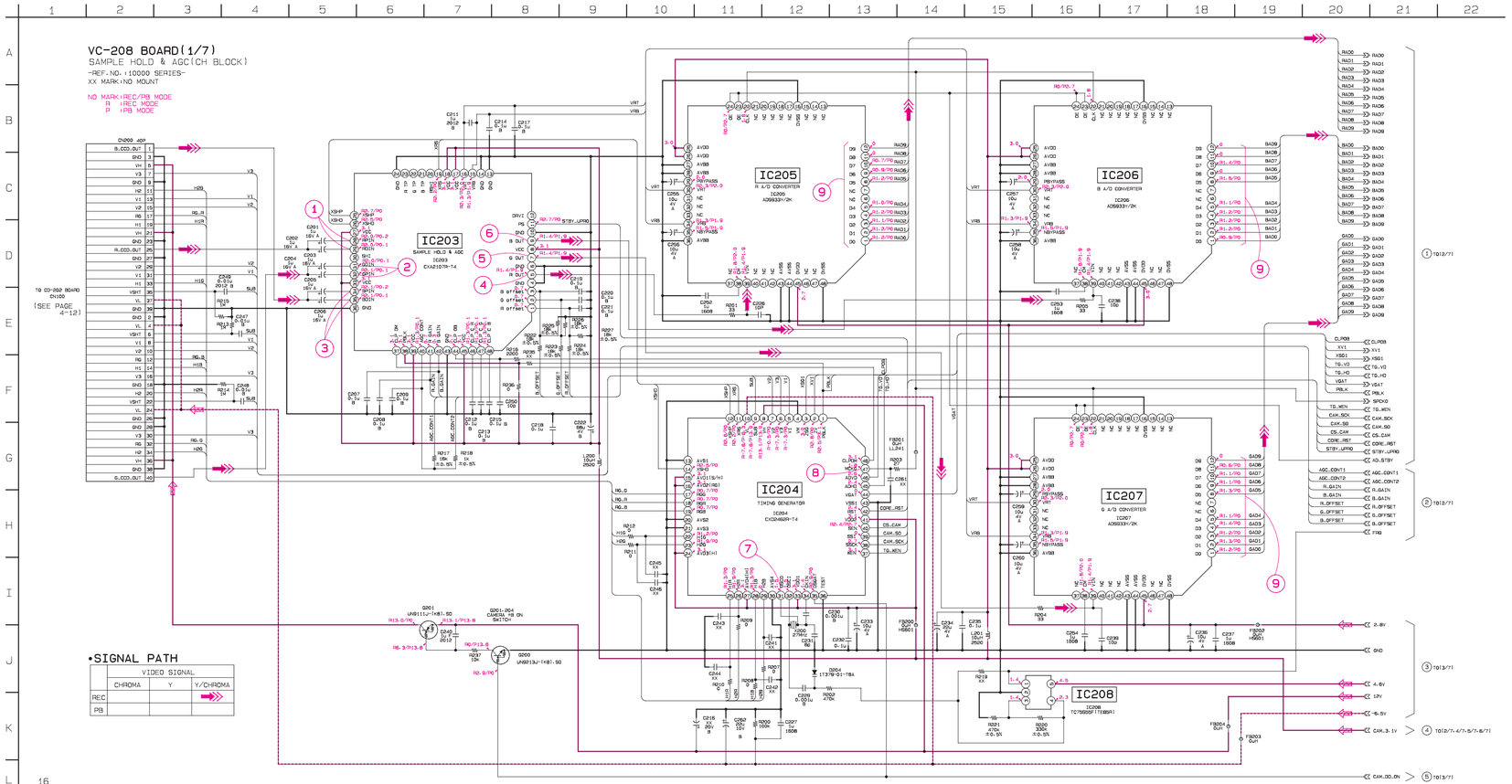
VC-208 BOARD (SIDE B)

C201	E-13	C411	A-12	IC302	B-11	R300	B-11	R724	B-17
C202	E-13	C412	B-13	IC305	C-11	R301	B-12	R725	B-18
C203	E-13	C413	B-12	IC351	C-15	R302	B-12	R726	C-18
C204	E-12	C414	B-12	IC352	C-15	R303	C-11	R727	B-17
C205	E-12	C415	B-12	IC354	C-13	R304	B-11	R728	B-18
C206	E-12	C702	B-17	IC355	C-13	R305	B-11	R729	B-18
C207	D-12	C705	A-18	IC356	C-14	R306	B-11	R730	B-18
C208	D-12	C721	B-18	IC357	D-14	R307	B-11	R731	B-17
C209	D-12	C722	B-17	IC400	B-12	R308	B-11	R732	B-17
C211	D-13	C723	B-18	IC701	A-17	R309	C-11	R733	B-17
C212	D-12	C724	B-18	IC721	B-18	R311	B-11	R740	C-18
C213	D-12	C725	B-18	IC722	B-17	R314	A-10	R741	B-18
C214	D-13	C726	B-17	IC751	B-13	R316	A-10	R742	C-18
C215	D-12	C727	B-18	IC753	C-13	R317	A-10	R743	C-18
C216	D-12	C728	B-18	IC754	A-14	R318	B-10	R744	C-18
C216	E-11	C729	B-18	IC755	A-13	R319	B-12	R745	C-17
C217	D-13	C730	B-18	IC759	C-12	R320	B-10	R751	C-13
C218	D-13	C731	C-18	IC760	A-14	R327	A-11	R752	C-13
C219	D-12	C732	C-17	IC1200	B-15	R328	A-11	R754	C-13
C220	D-12	C744	B-17			R329	A-11	R755	C-14
C221	D-12	C751	B-13	L200	D-13	R330	A-11	R756	B-14
C222	D-14	C755	C-13	L300	C-11	R331	B-10	R757	B-14
C227	D-11	C756	B-14	L301	D-12	R332	A-11	R758	B-14
C229	E-11	C757	B-14	L351	C-15	R333	A-11	R759	B-14
C230	E-11	C758	C-14	L352	D-14	R334	A-11	R760	A-14
C231	E-11	C759	B-15	L400	C-12	R335	A-11	R761	A-14
C232	D-12	C761	A-13	L754	C-15	R336	A-11	R762	A-13
C233	D-12	C769	C-12	L1200	A-16	R350	C-13	R763	C-14
C240	E-13	C770	C-12	L1201	B-17	R353	D-14	R764	B-14
C241	E-12	C771	C-12	L1202	C-16	R354	D-14	R781	A-13
C242	E-12	C772	A-14	L1203	A-16	R355	D-14	R782	A-13
C243	D-12	C1200	B-16	L1204	B-16	R356	D-14	R783	A-13
C244	E-12	C1201	B-16	L1205	B-14	R357	C-15	R784	A-13
C245	D-12	C1202	B-16			R358	D-15	R785	A-13
C246	D-12	C1203	B-17	Q200	E-13	R359	C-15	R786	A-13
C247	E-11	C1204	A-16	Q201	E-13	R360	D-15	R787	A-13
C248	D-11	C1205	B-16	Q301	B-12	R361	D-15	R793	A-13
C249	D-11	C1206	A-15	Q351	C-14	R362	C-15	R794	C-12
C250	D-12	C1207	B-16	Q352	D-14	R363	D-15	R795	C-12
C261	D-11	C1208	B-16	Q353	D-15	R364	C-15	R796	C-12
C262	D-11	C1209	A-16	Q354	C-15	R365	D-15	R797	C-12
C302	C-11	C1210	B-16	Q727	B-18	R366	D-15	R804	A-14
C303	C-12	C1211	A-16	Q751	C-13	R367	D-14	R805	A-14
C305	A-10	C1212	B-14	Q752	C-14	R368	D-14	R806	A-14
C306	A-10	C1213	A-15	Q753	B-14	R369	C-14	R809	C-12
C307	A-10	C1214	A-15	Q754	C-14	R370	C-14	R911	B-15
C308	C-12	C1215	B-16	Q755	C-12	R371	C-14	R912	C-15
C309	D-12	C1216	A-15	Q1200	A-16	R372	C-14	R913	B-15
C310	A-10	C1217	A-15	Q1201	B-16	R373	C-14	R914	C-15
C311	C-18	C1218	A-15	Q1202	B-16	R374	C-13	R915	B-15
C351	D-15	C1219	A-16	Q1203	A-16	R375	D-13	R916	C-15
C353	D-15	C1220	A-16	Q1204	A-16	R376	D-14	R917	B-15
C354	D-15	C1221	A-15	Q1205	B-16	R377	C-13	R918	C-15
C355	D-15	C1222	A-15	Q1206	B-16	R378	D-13	R920	C-17
C357	C-15	C1223	A-16	Q1207	A-15	R379	D-13	R921	C-17
C358	C-14	C1224	B-16	Q1208	C-17	R380	C-13	R922	C-17
C359	C-14	C1225	B-15	Q1209	B-16	R381	C-13	R1202	B-16
C360	D-14	C1226	B-16			R382	C-13	R1203	B-16
C361	C-14	C1227	B-16	R200	D-11	R383	C-13	R1204	B-17
C362	C-14	C1228	B-16	R202	E-11	R384	D-13	R1205	A-15
C368	C-12	C1229	A-16	R203	D-11	R385	D-13	R1206	A-16
C370	D-13	C1230	B-16	R207	E-12	R386	D-13	R1207	B-16
C371	D-13	C1231	B-15	R208	E-12	R387	C-14	R1208	B-16
C372	D-13	C1232	B-14	R209	D-12	R388	C-14	R1209	B-16
C373	C-13	C1233	B-15	R210	E-12	R389	D-16	R1210	A-16
C374	C-13	C1234	B-15	R211	D-12	R390	C-16	R1211	A-16
C375	C-13	C1235	C-15	R212	D-12	R391	D-15	R1212	B-16
C376	C-14			R213	E-11	R392	D-15	R1213	B-16
C377	C-14	CN900	C-17	R214	D-11	R393	C-14	R1214	A-15
C379	D-14			R215	D-11	R394	C-14	R1216	B-16
C380	C-13	D204	E-11	R216	D-12	R395	D-14	R1217	A-15
C381	D-14	D723	C-18	R217	E-12	R396	D-13	R1218	B-16
C382	D-15	D724	C-18	R218	D-12	R400	B-12	R1219	A-15
C383	D-15	D1200	C-16	R219	D-13	R401	B-13	R1266	B-15
C400	B-12	D1201	C-15	R220	D-13	R402	B-13	R1267	B-16
C401	B-13			R221	D-14	R403	B-12	R1268	B-16
C402	A-13	FB200	D-12	R222	D-12	R404	B-12	R1269	B-16
C403	B-12	FB201	D-11	R223	D-12	R405	B-12	R1270	B-15
C404	B-12	FB203	E-13	R224	D-12	R406	B-12	R1271	C-15
C405	B-12	FB204	E-14	R225	D-12	R407	B-13		
C406	B-12			R226	D-12	R408	B-12	X1200	C-16
C407	B-12	IC203	D-13	R227	D-12	R409	B-12	X200	E-11
C408	A-13	IC204	D-11	R235	E-12	R721	B-18	X300	C-11
C409	A-12	IC208	D-14	R236	E-12	R722	B-18	X751	B-14
C410	A-12	IC301	C-11	R237	E-13	R723	B-18		

VC-208 BOARD (1/7)

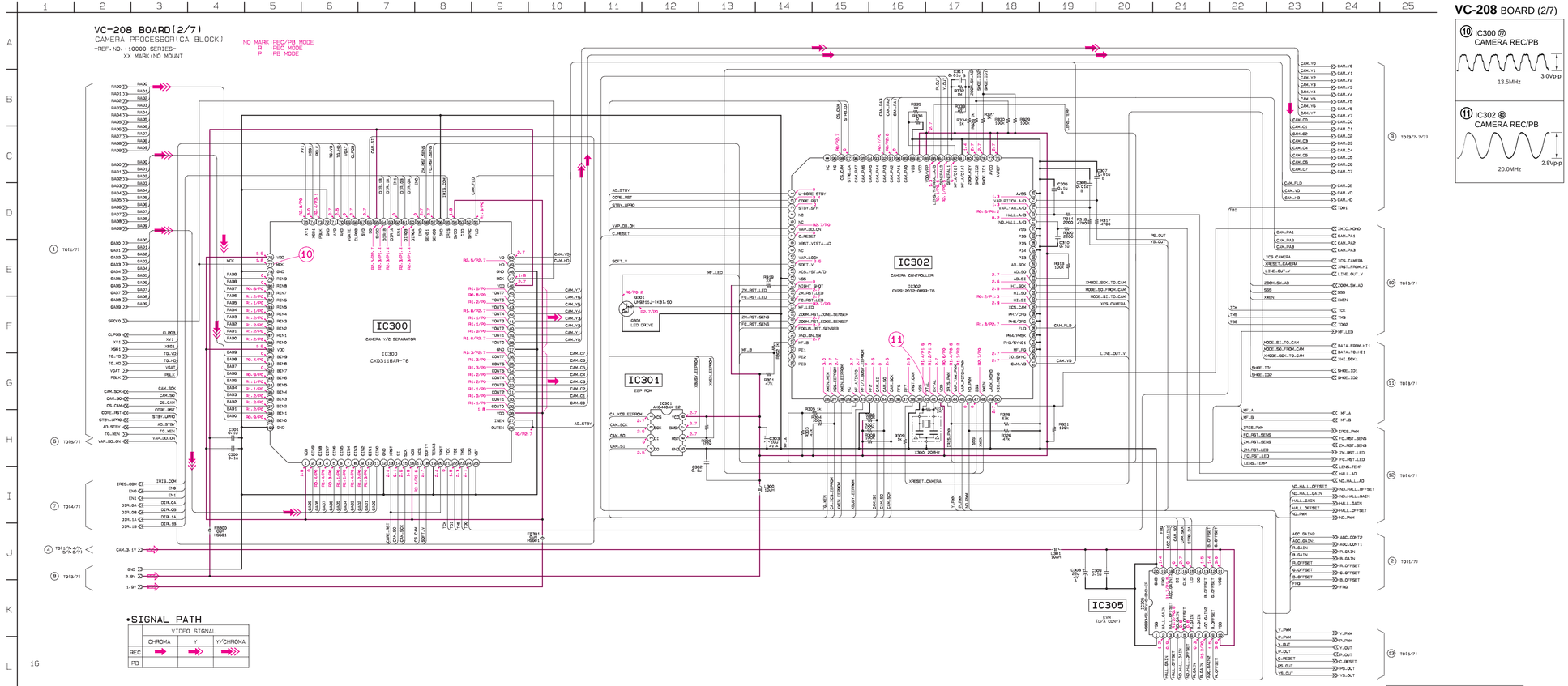
① IC203 ㉘, ㉙ CAMERA REC H 0.6Vp-p	⑥ IC203 ⑨ CAMERA REC H 0.34Vp-p
② IC203 ㉛, ㉜ CAMERA REC H 0.5Vp-p	⑦ IC204 ㉛ CAMERA REC 27.0 MHz 3.4Vp-p
③ IC203 ㉔, ㉕ CAMERA REC H 0.6Vp-p	⑧ IC204 ㉗ CAMERA REC/PB 13.5 MHz 3.0Vp-p
④ IC203 ⑤ CAMERA REC H 0.28Vp-p	⑨ IC205 ① – ⑤, ⑥ – ⑫ IC206 ① – ⑤, ⑥ – ⑫ IC207 ① – ⑤, ⑥ – ⑫ CAMERA REC 74 nsec 2.8Vp-p
⑤ IC203 ⑦ CAMERA REC H 0.34Vp-p	

For schematic diagram
• Refer to page 4-17 for printed wiring board.



SAMPLE HOLD & AGC
VC-208 (1/7)

For schematic diagram
• Refer to page 4-17 for printed wiring board.

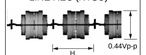


CAMERA PROCESSOR
VC-208 (2/7)

For schematic diagram
• Refer to page 4-17 for printed wiring board.

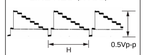
VC-208 BOARD (3/7)

⑫ IC1200 ㉘ LINE REC (NTSC)



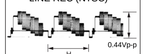
⑫ IC1200 ㉘ CAMERA REC/PB

⑬ IC1200 ㉝ LINE REC (NTSC)



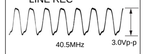
⑬ IC1200 ㉝ CAMERA REC/PB

⑭ IC1200 ㉞ LINE REC (NTSC)

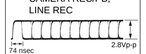


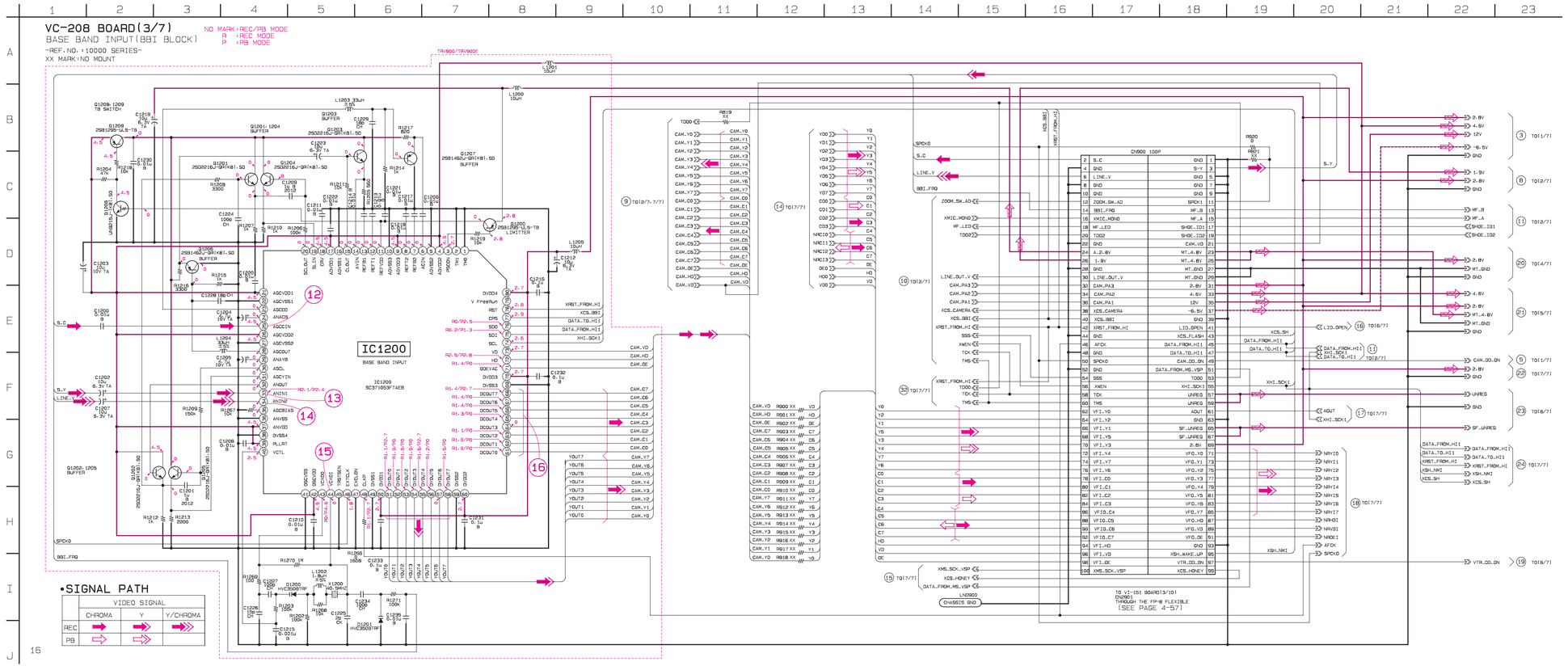
⑭ IC1200 ㉞ CAMERA REC/PB

⑮ IC1200 ㊹ LINE REC



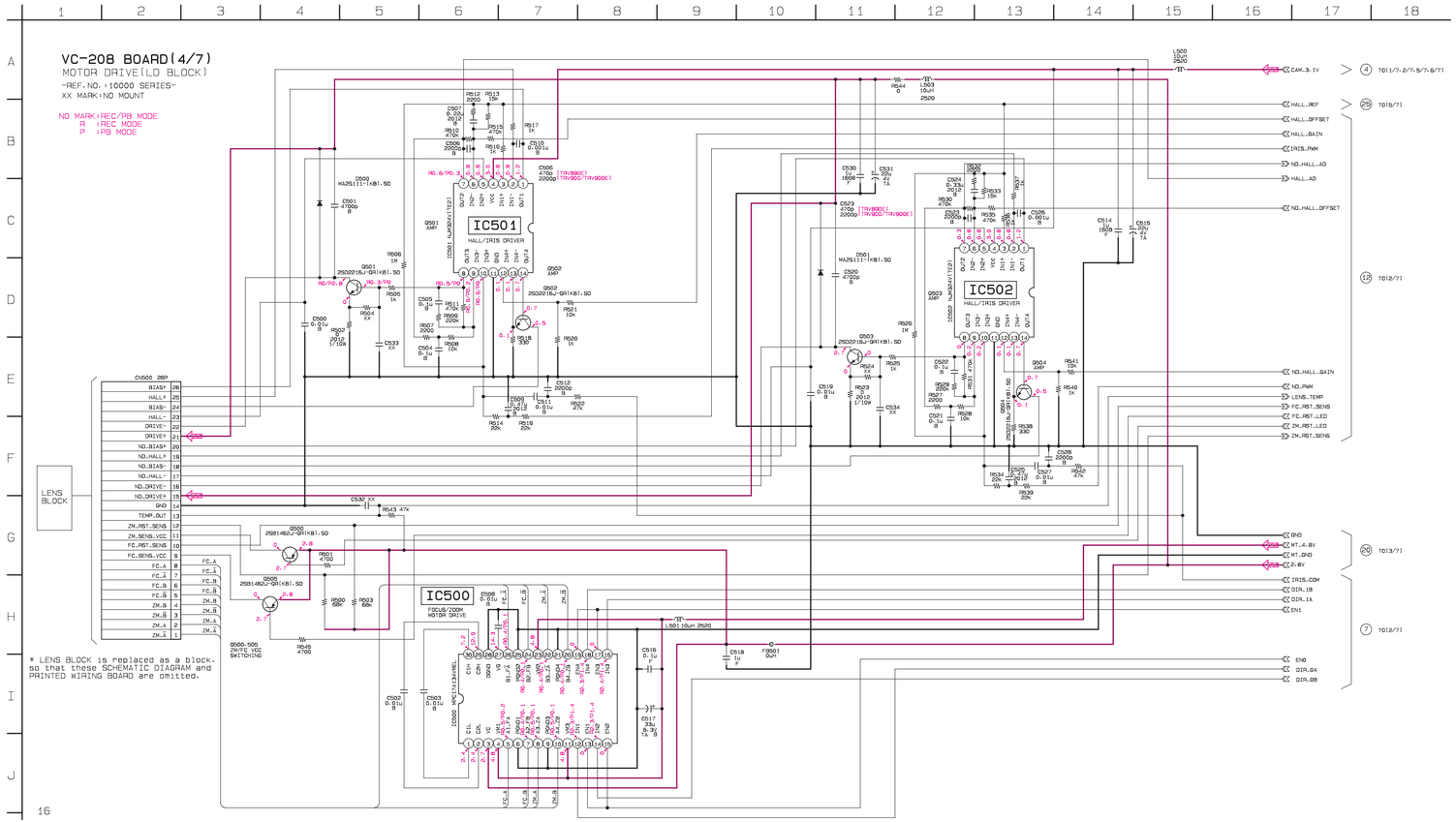
⑯ IC1200 ㉚ – ㊽ CAMERA REC/PB, LINE REC





BASE BAND INPUT
VC-208 (3/7)

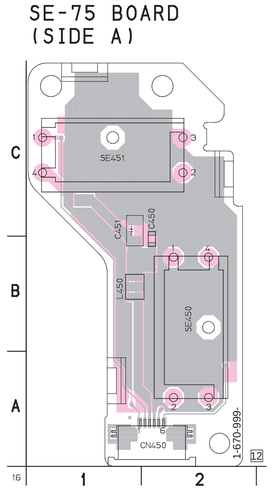
For schematic diagram
• Refer to page 4-17 for printed wiring board.



MOTOR DRIVE
VC-208 (4/7)

SE-75 (YAW/PITCH SENSOR) PRINTED WIRING BOARD

— Ref. No. SE-75 Board; 10,000 Series —



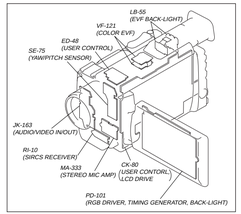
SE-75 BOARD

C450	B-2
C451	A-2
CN450	A-2
L450	B-1
SE450	B-2
SE451	C-1

For printed wiring boards

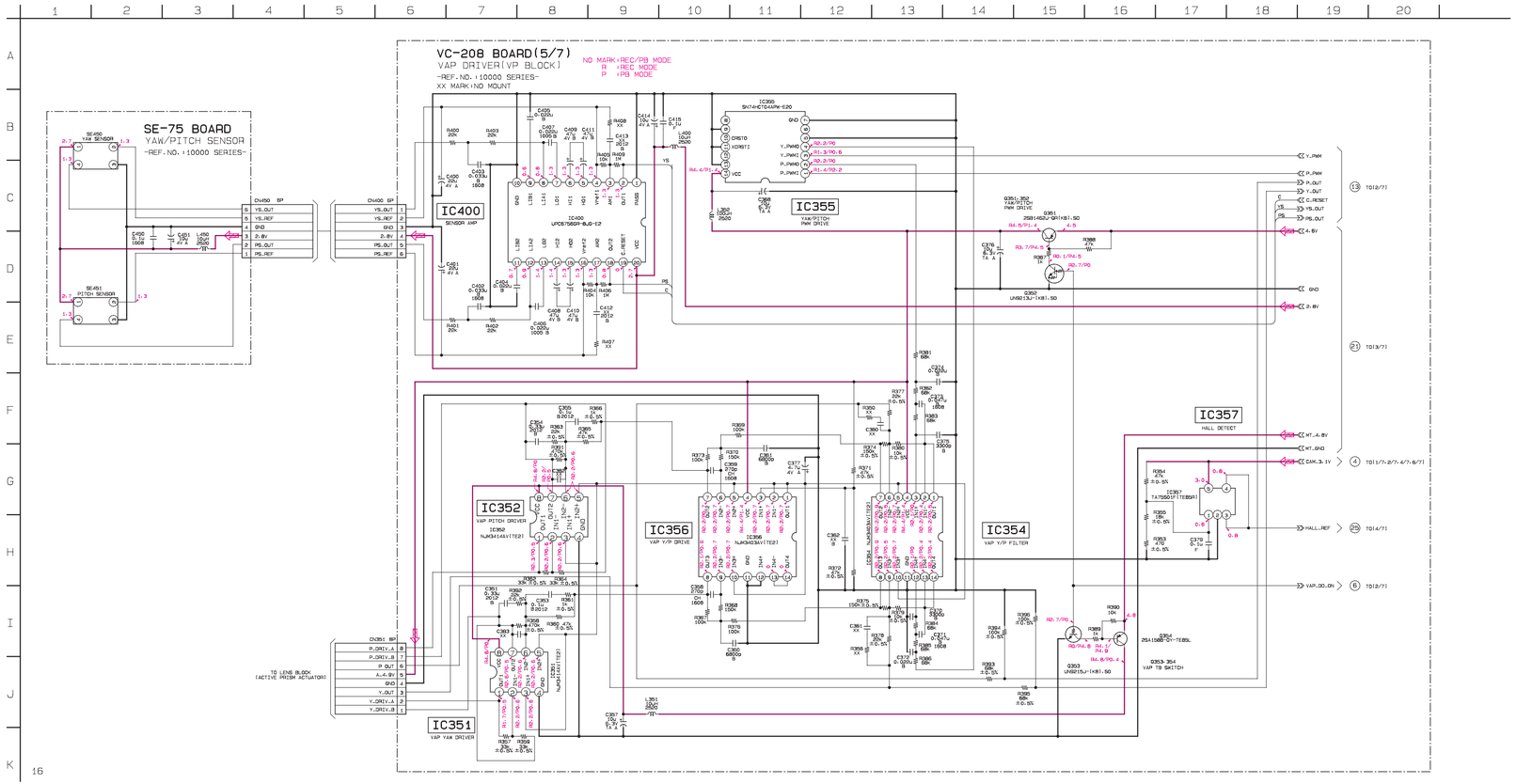
• This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.

There are few cases that the part printed on this diagram isn't mounted in this model.



For schematic diagram

• Refer to page 4-17 for printed wiring board of VC-208.



For schematic diagram
• Refer to page 4-17 for printed wiring board.

VC-208 BOARD(6/7)

CARD CONTROL, PWM CONTROL
(SF1/3, 2/3BLOCK)

-REF.NO.:10000 SERIES-
XX MARK:NO MOUNT

NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
( ):PC CARD IN

VC-208 BOARD (6/7)
CAMERA REC/PB

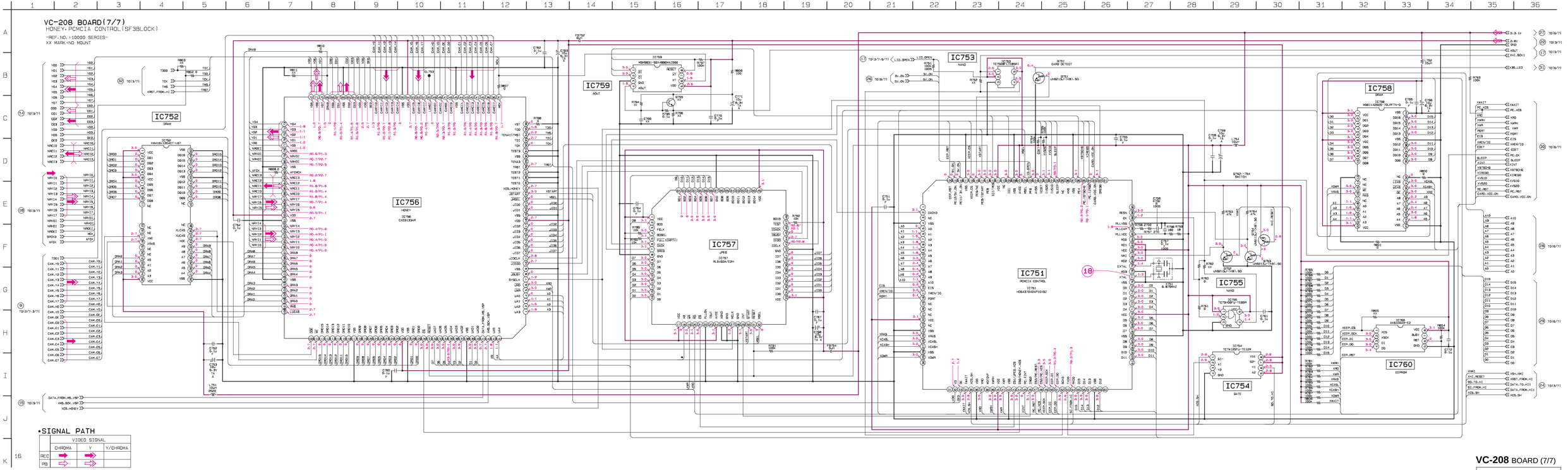
17 IC722 ⑩
2.3μsec
0.8Vp-p

TO DC-BD BOARD CN7208
(SEE PAGE 4-106)

FP-13 FLEXIBLE

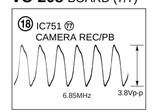
CARD CONTROL, PWM CONTROL
VC-208 (6/7)

For schematic diagram
• Refer to page 4-17 for printed wiring board.

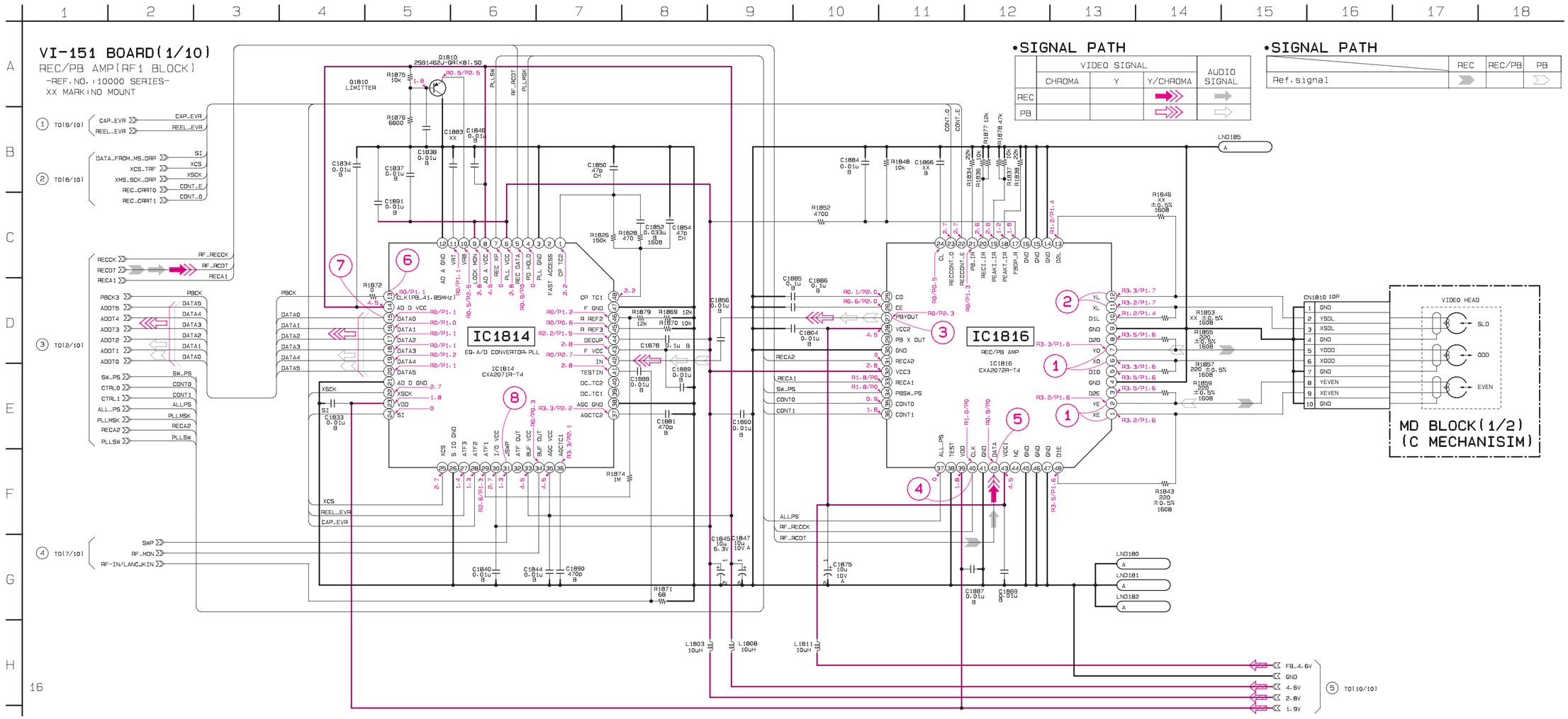


VC-208 BOARD (7/7)

⑱ IC751 ⑰
CAMERA REC/PB

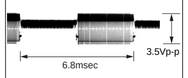


For schematic diagram
• Refer to page 4-91 for printed wiring board.

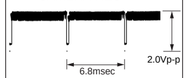


VI-151 BOARD (1/10)

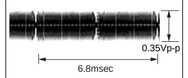
① IC1816 ①, ②, ⑥, ⑦ CAMERA REC



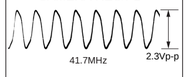
② IC1816 ⑪, ⑫ CAMERA REC



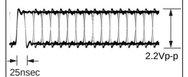
③ IC1816 ㉗ PB



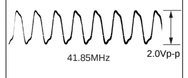
④ IC1816 ㊵ CAMERA REC/PB



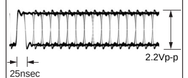
⑤ IC1816 ㊷ CAMERA REC



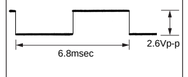
⑥ IC1814 ⑬ PB



⑦ IC1814 ⑮ – ⑳ PB



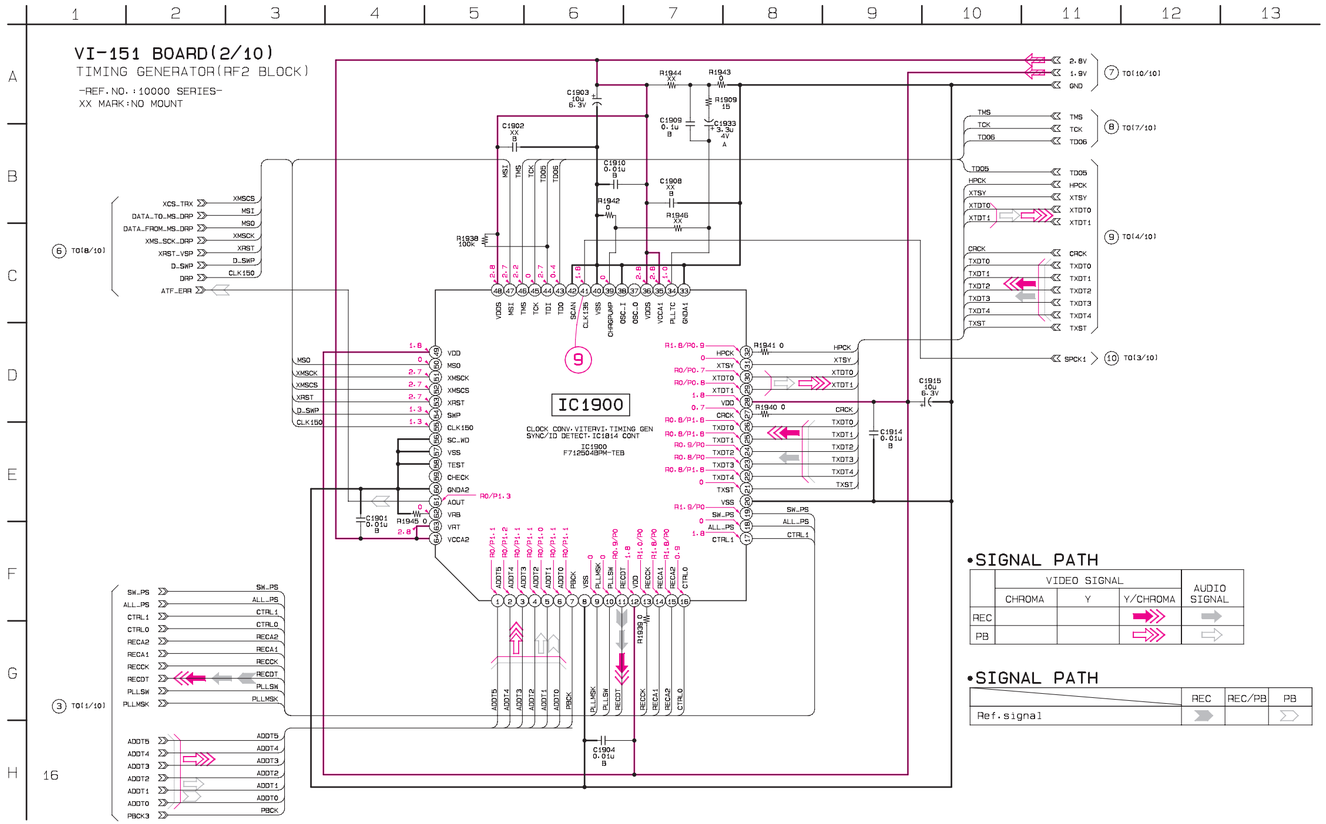
⑧ IC1814 ㉛ CAMERA REC/PB



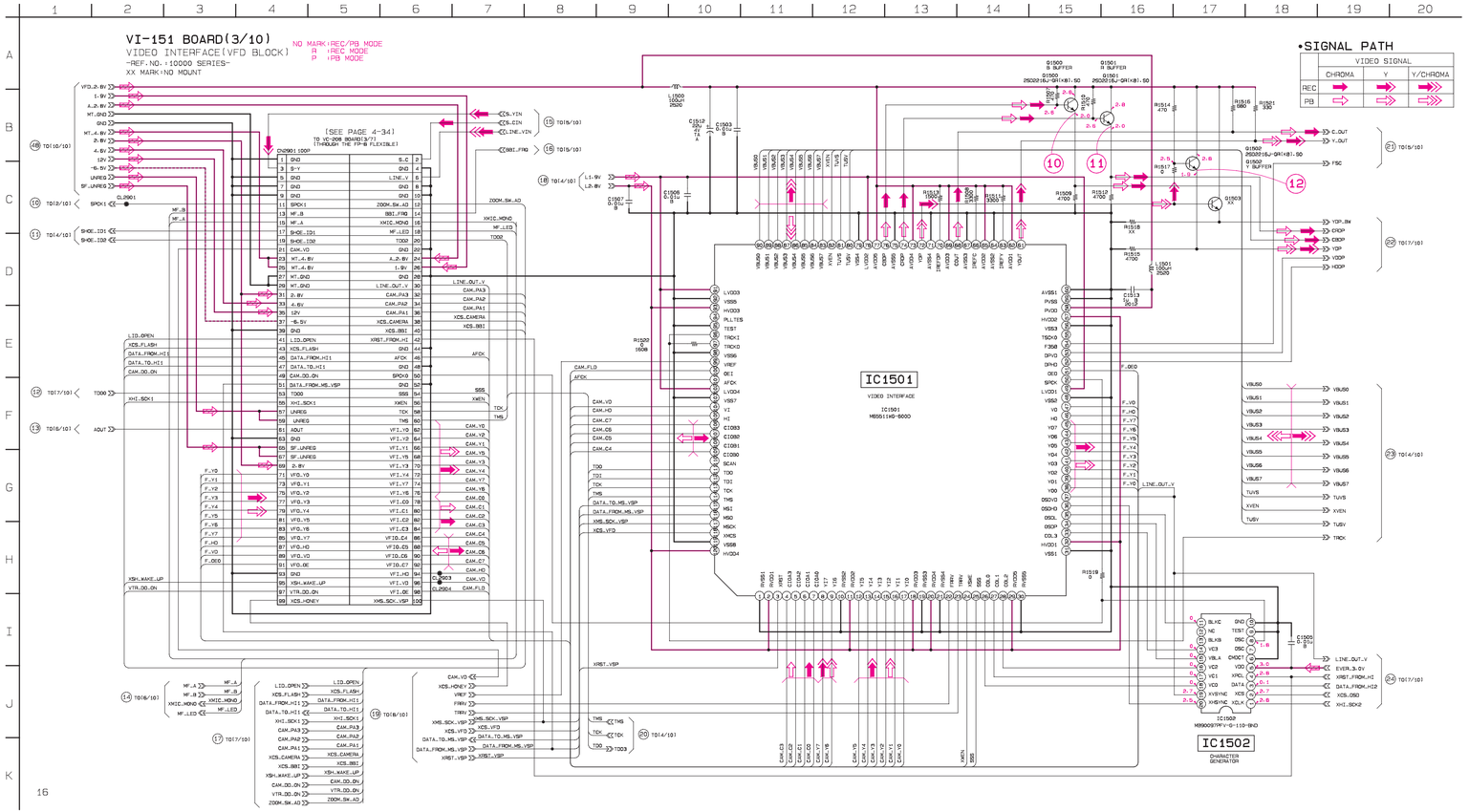
VI-151 BOARD (2/10)
CAMERA REC

⑨ IC1900 ㊶

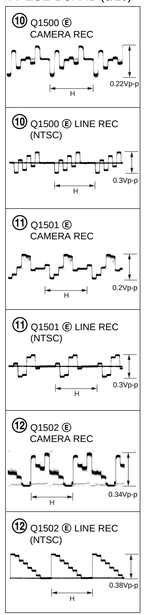
For schematic diagram
• Refer to page 4-91 for printed wiring board.



For schematic diagram
• Refer to page 4-91 for printed wiring board.



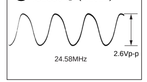
VI-151 BOARD (3/10)

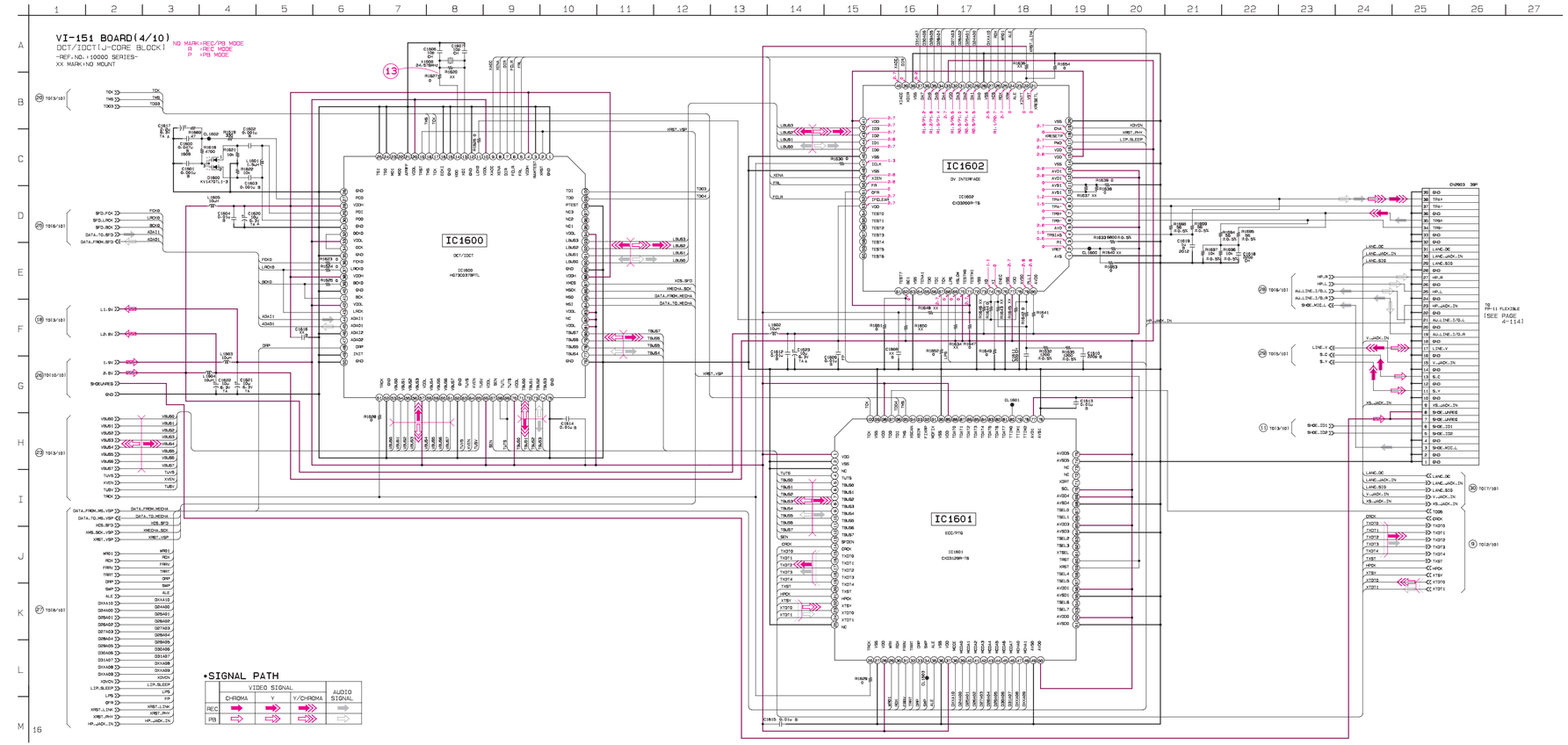


For schematic diagram
• Refer to page 4-91 for printed wiring board.

VI-151 BOARD (4/10)
CAMERA REC/PB

⑬ IC1600 ⓗ (R1627)

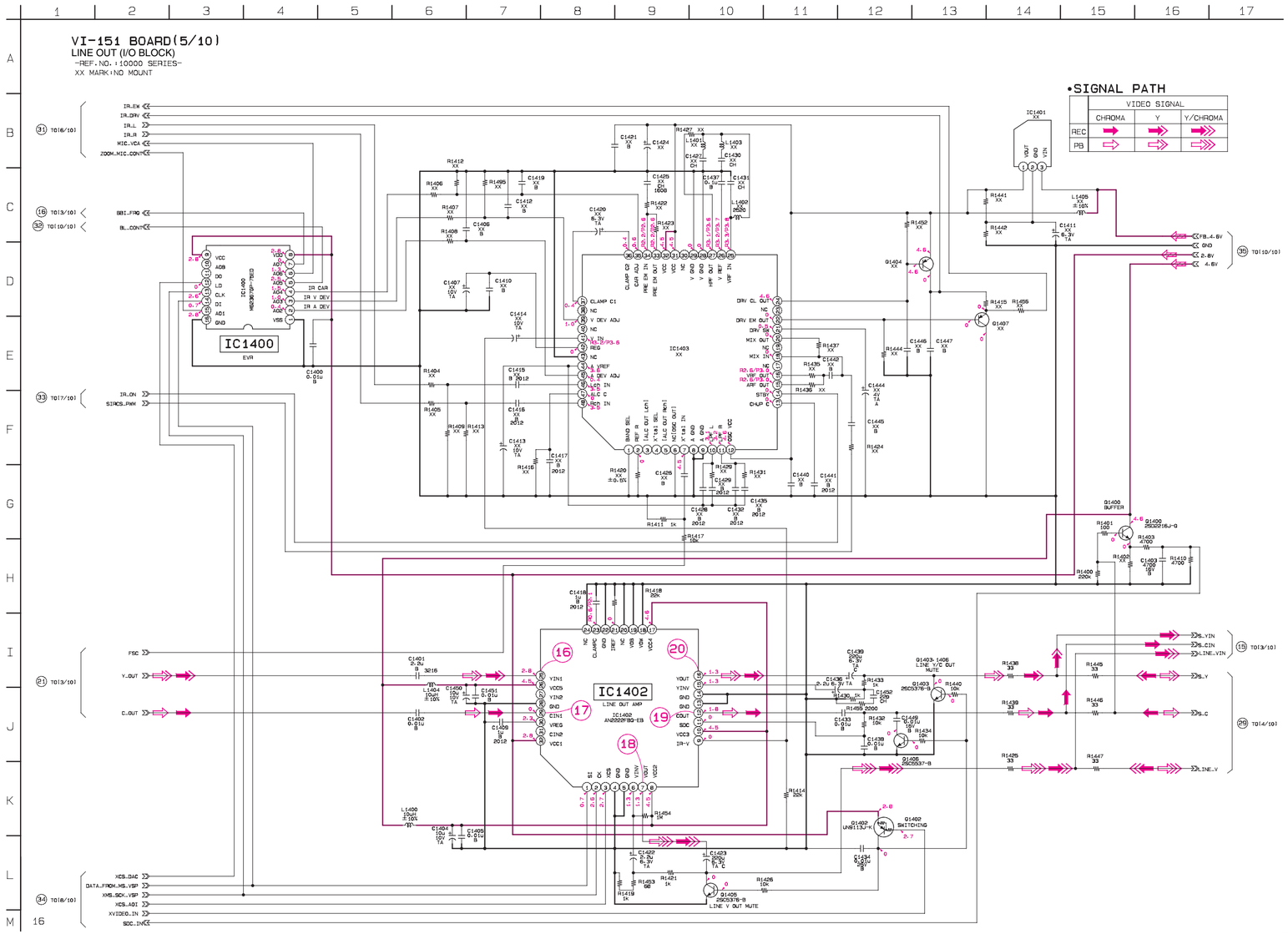




DCT/IDCT
VI-151 (4/10)

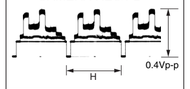
For schematic diagram

• Refer to page 4-91 for printed wiring board.



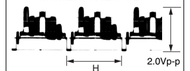
VI-151 BOARD (5/10)

⑯ IC1402 ㉘
CAMERA REC/PB



⑰ IC1402 ㉙
CAMERA REC/PB

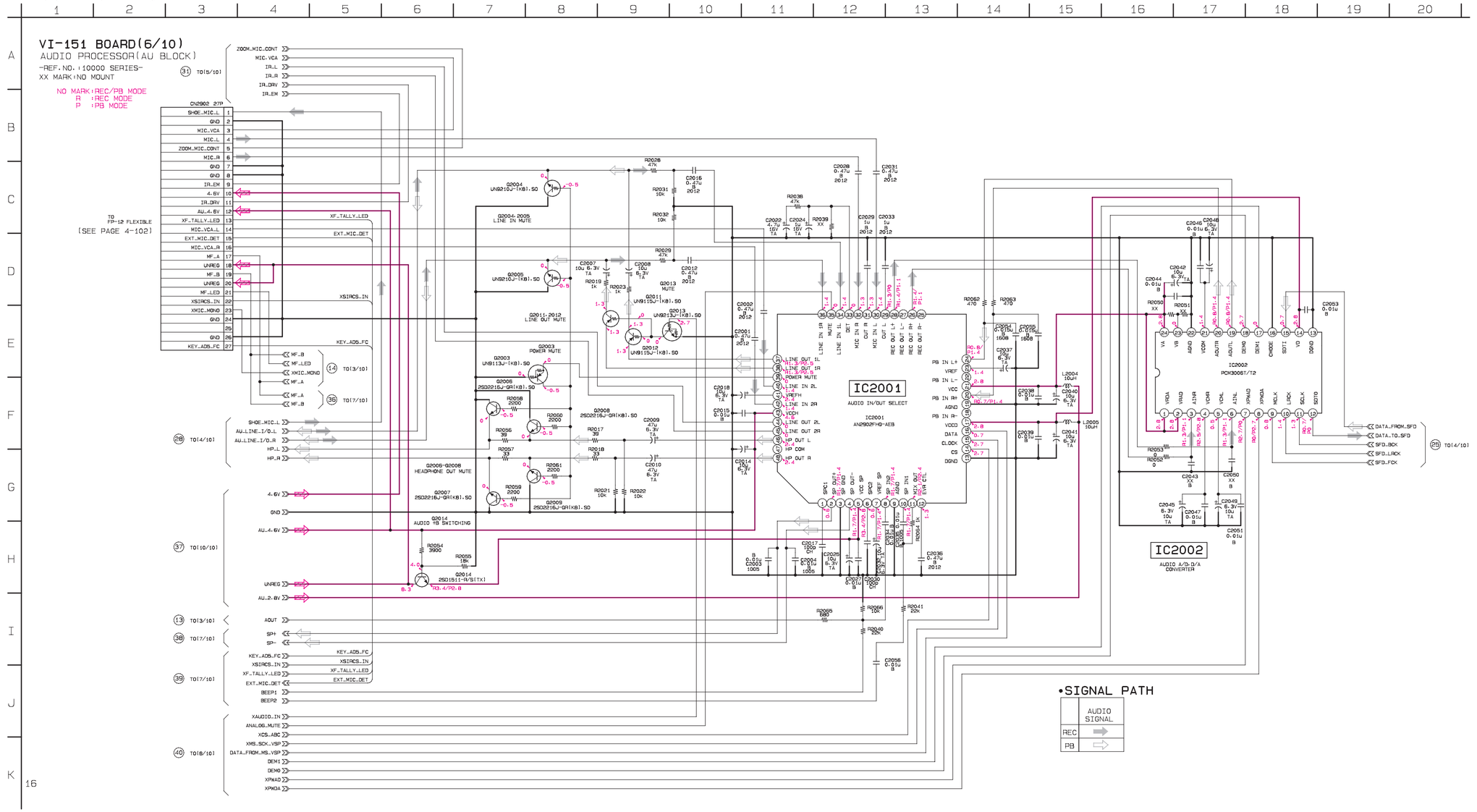
⑱ IC1402 ⑦
CAMERA REC/PB



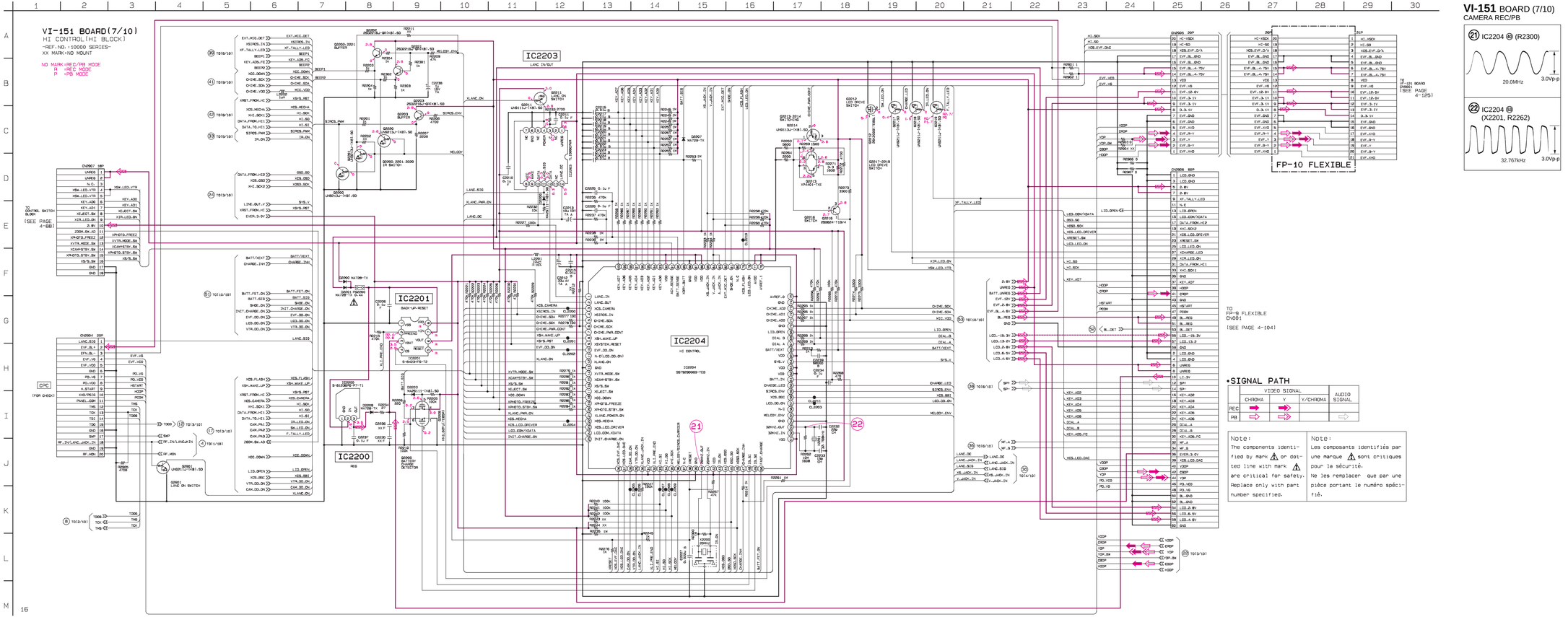
⑲ IC1402 ⑫
CAMERA REC/PB

⑳ IC1402 ⑯
CAMERA REC/PB

For schematic diagram
• Refer to page 4-91 for printed wiring board.



For schematic diagram
• Refer to page 4-91 for printed wiring board.



VI-151 BOARD (7/10)
CAMERA REC/PB

21 IC2204 ⑭ (R2300)

22 IC2204 ⑮ (X2201, R2262)

•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	C-HROMA	Y	Y/C-HROMA	
REC	⇨	⇨		
PB	⇦	⇦		⇦

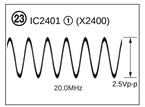
Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

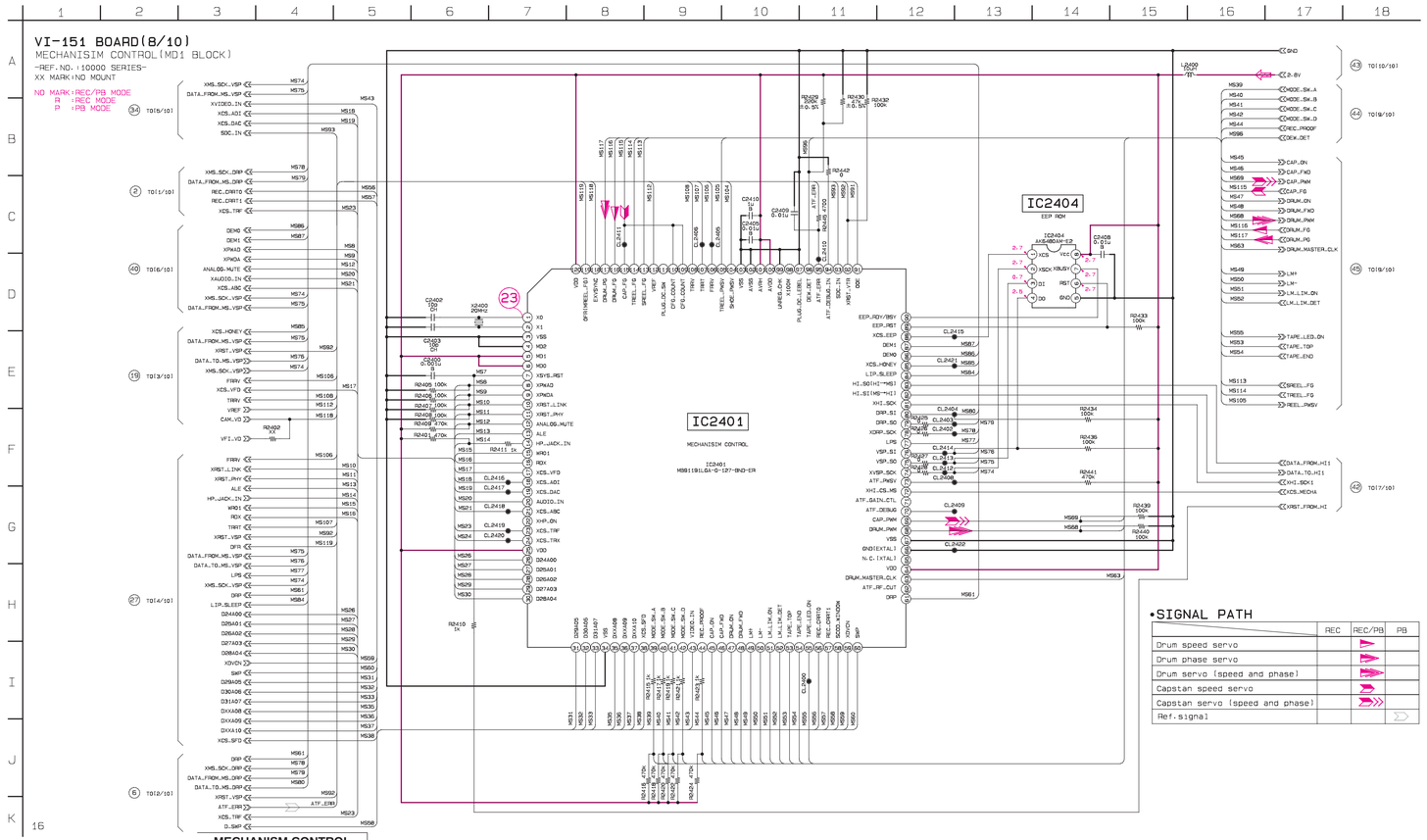
Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

For schematic diagram
• Refer to page 4-91 for printed wiring board.

VI-151 BOARD (8/10)
CAMERA REC/PB

㉓ IC2401 ① (X2400)

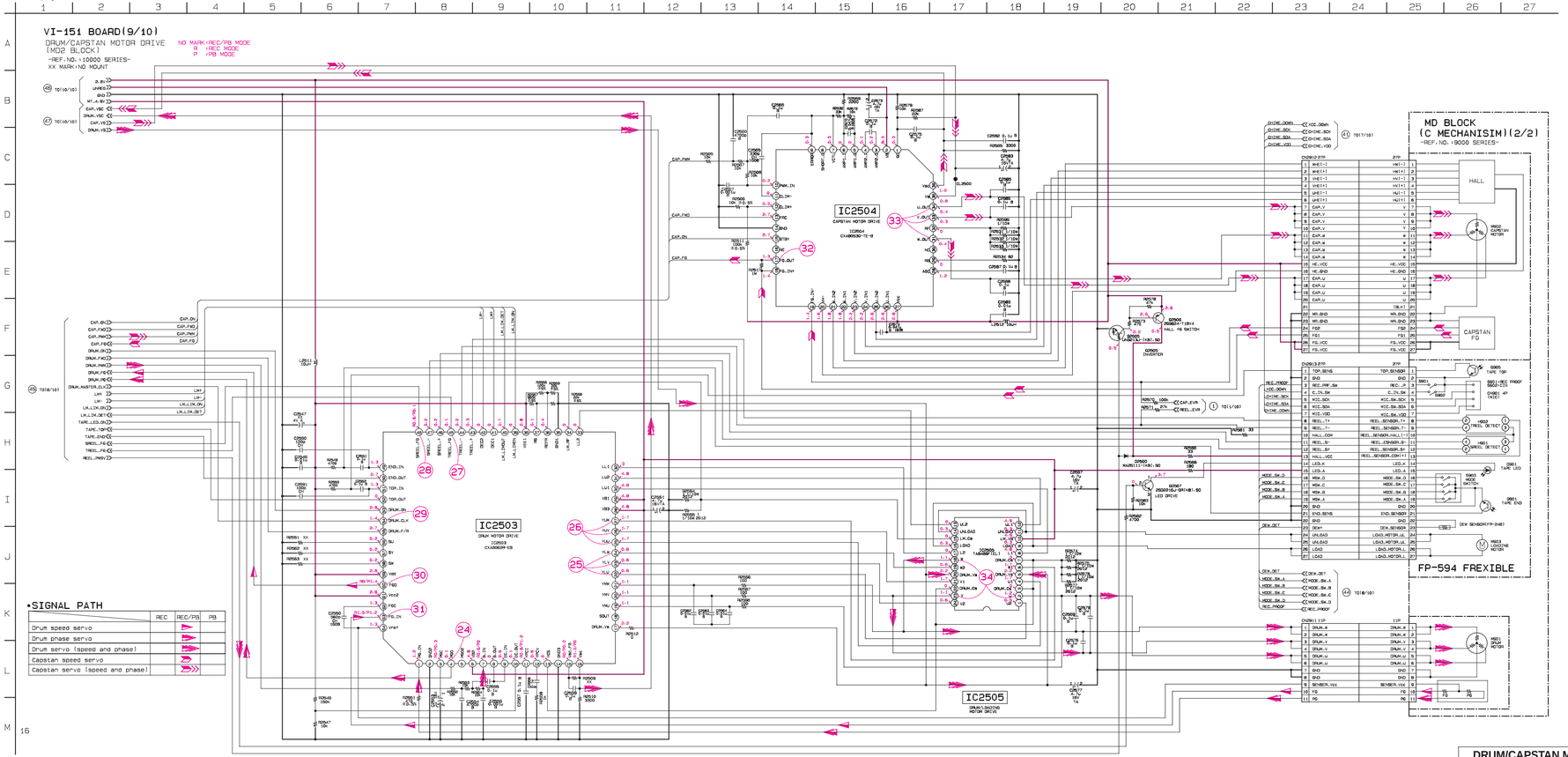




•SIGNAL PATH

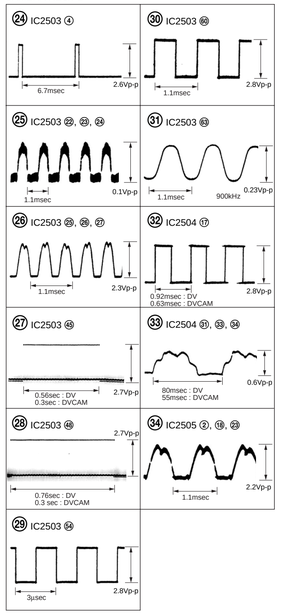
	REC	REC/PB	PB
Drum speed servo		▶	
Drum phase servo		▶	
Drum servo (speed and phase)		▶	
Capstan speed servo		▶	
Capstan servo (speed and phase)		▶	
Ref.signal			▷

For schematic diagram
- Refer to page 4-91 for printed wiring board.
- Refer to page 4-87 for FP-594 flexible board.



VI-151 BOARD (9/10)

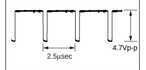
CAMERA REC/PB

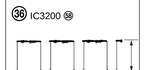


DRUM/CAPSTAN MOTOR DRIVE
VI-151 (9/10)

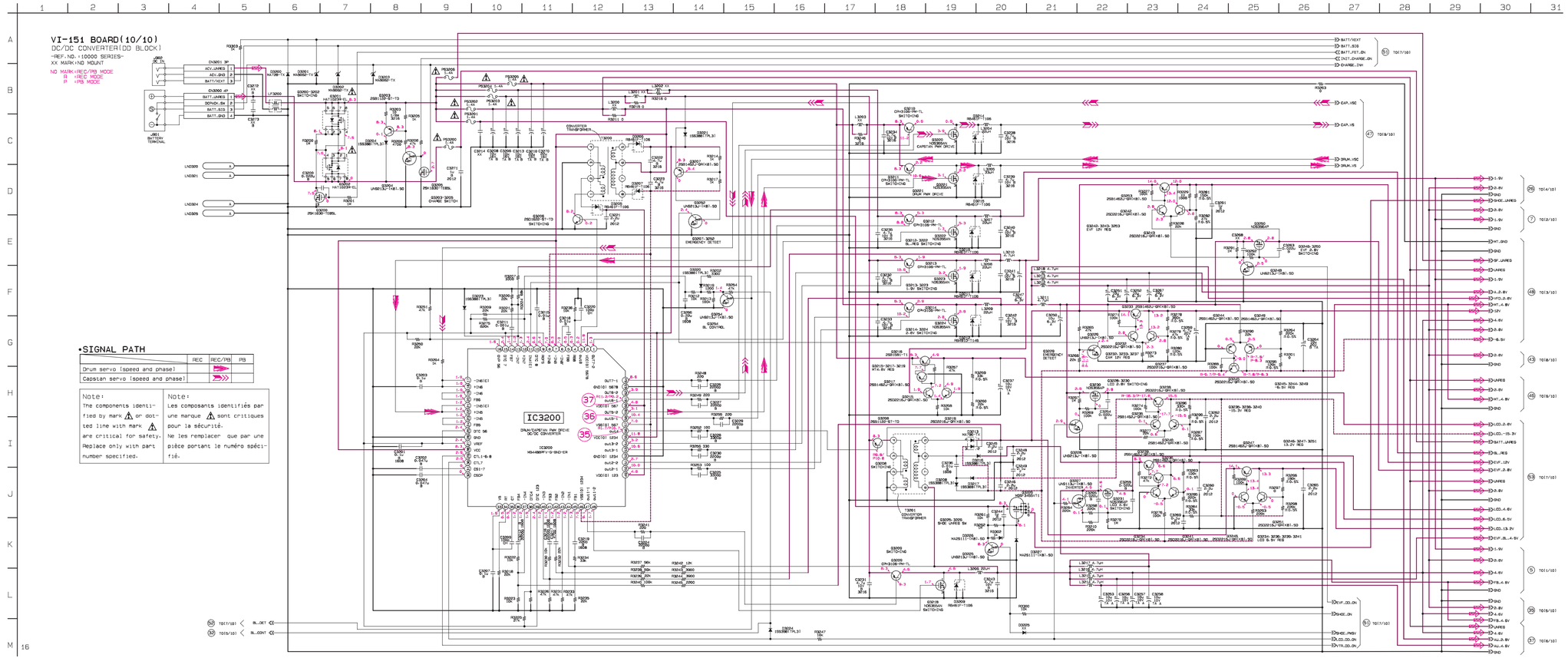
For schematic diagram
• Refer to page 4-91 for printed wiring board.

VI-151 BOARD (10/10)
CAMERA REC/PB

35 IC3200 56


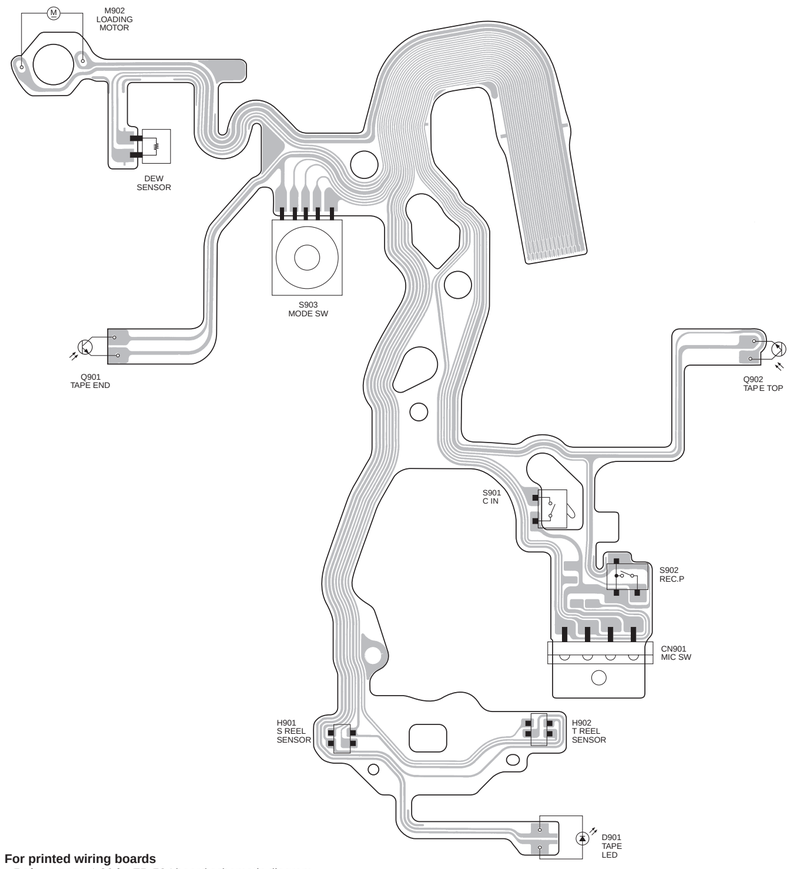
36 IC3200 58


37 IC3200 61

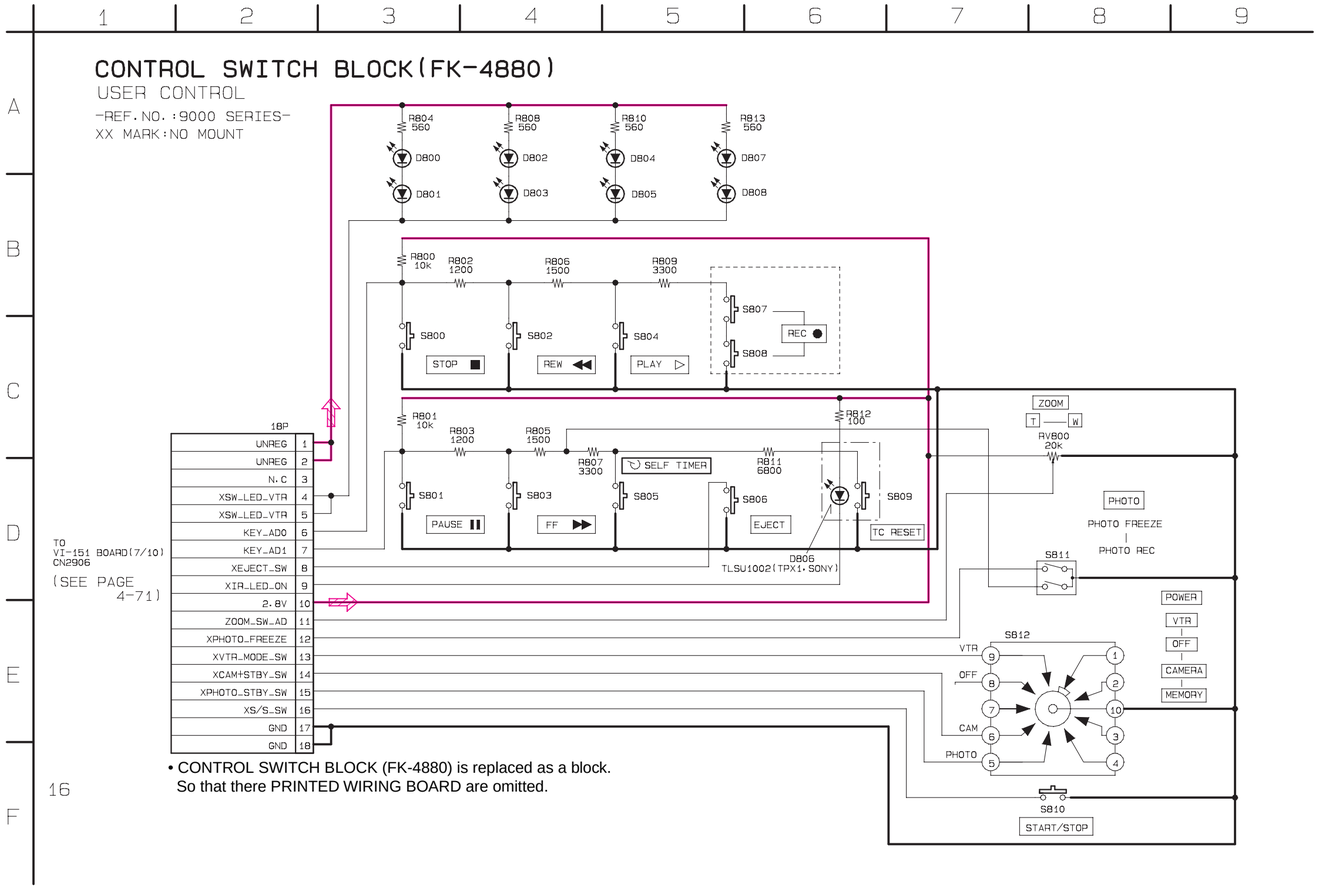

VI-151 BOARD(10/10)
DC/DC CONVERTER(DD BLOCK)
-REF.NO.:10000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
IC3200
DRUM/CAPSTAN PWM DRIVE DC/DC CONVERTER
M54648BFP-V-GHG-ER
SIGNAL PATH
REC
REC/PB
PB
Drum servo (speed and phase)
Capstan servo (speed and phase)
Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

FP-594 (LOADING MOTOR, S/T REEL SENSOR) PRINTED WIRING BOARD
— Ref. No.: FP-594 Board; 9,000 Series —

FP-594 BOARD



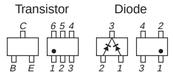
For printed wiring boards
• Refer to page 4-82 for FP-594 board schematic diagram.



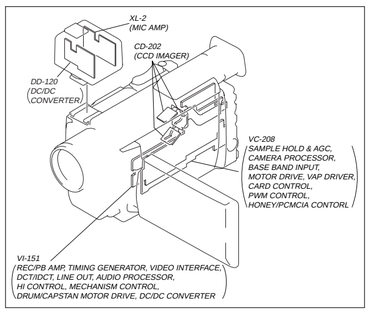
For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor Diode



There are few cases that the part printed on this diagram isn't mounted in this model.

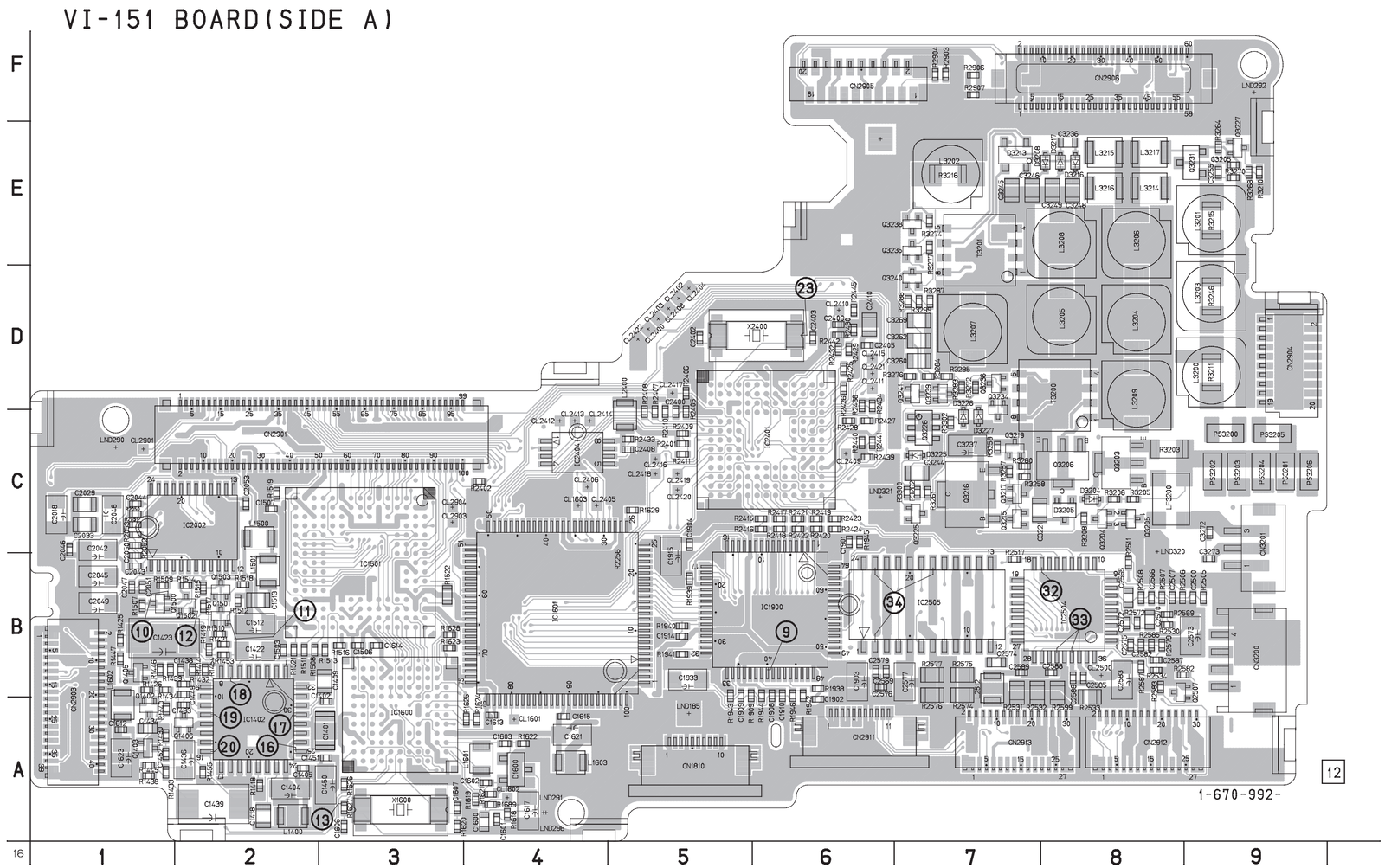


VI-151 BOARD (SIDE A)

C1401	A-3	C3244	C-7	Q3205	C-8	R2416	C-6
C1402	A-3	C3245	E-7	Q3206	C-8	R2417	C-6
C1404	A-2	C3246	E-7	Q3215	C-7	R2418	C-6
C1405	A-2	C3248	E-8	Q3216	C-7	R2419	C-6
C1409	B-3	C3249	E-8	Q3217	C-7	R2420	C-6
C1418	A-2	C3255	E-9	Q3219	C-7	R2421	C-6
C1422	B-2	C3260	D-7	Q3225	C-7	R2422	C-6
C1423	B-1	C3262	D-7	Q3226	C-7	R2423	C-6
C1433	A-2	C3269	D-7	Q3227	E-9	R2424	C-6
C1434	A-1	C3272	C-9	Q3231	E-9	R2425	D-6
C1436	A-2	C3273	B-9	Q3234	C-7	R2426	D-6
C1438	B-2			Q3235	E-7	R2427	C-6
C1439	A-2	CN1810	A-5	Q3236	D-7	R2428	C-6
C1449	B-2	CN2901	C-2	Q3238	E-7	R2429	D-6
C1450	A-3	CN2903	A-1	Q3239	D-7	R2430	D-6
C1451	A-3	CN2904	D-9	Q3240	D-7	R2432	D-6
C1452	A-1	CN2905	F-6	Q3241	D-7	R2433	C-5
C1503	B-2	CN2906	F-8			R2434	D-6
C1506	B-3	CN2911	A-6	R1414	B-2	R2436	D-6
C1507	C-2	CN2912	A-8	R1418	A-2	R2439	C-6
C1512	B-2	CN2913	A-7	R1419	B-2	R2440	C-6
C1513	B-2	CN3200	B-9	R1421	B-2	R2441	C-6
C1600	A-4	CN3201	C-9	R1425	B-1	R2442	D-6
C1601	A-4			R1426	B-1	R2445	D-6
C1602	A-4	D1600	A-4	R1430	A-1	R2505	B-9
C1603	A-4	D3204	C-8	R1432	B-2	R2506	B-8
C1606	A-3	D3205	C-8	R1433	A-1	R2507	B-8
C1607	A-3	D3208	E-7	R1434	B-1	R2508	B-8
C1612	A-1	D3213	E-7	R1438	A-1	R2511	B-8
C1613	A-4	D3216	E-8	R1439	B-1	R2517	B-7
C1614	B-3	D3217	E-8	R1440	A-1	R2530	B-8
C1615	A-4	D3225	C-7	R1445	A-1	R2531	A-7
C1617	A-4	D3226	C-7	R1446	B-1	R2532	A-7
C1621	A-4	D3227	C-7	R1447	B-1	R2533	A-8
C1623	A-1			R1453	B-2	R2534	B-8
C1901	C-6	IC1402	A-2	R1454	B-2	R2569	B-8
C1902	A-6	IC1501	B-3	R1455	A-2	R2572	B-8
C1903	B-6	IC1600	A-3	R1507	B-1	R2574	A-7
C1904	C-5	IC1601	B-4	R1508	B-2	R2575	B-7
C1908	A-6	IC1900	B-6	R1509	B-1	R2576	A-7
C1909	A-5	IC2002	C-2	R1510	B-2	R2577	B-7
C1910	A-6	IC2401	C-6	R1511	B-2	R2579	B-8
C1914	B-5	IC2404	C-4	R1512	B-2	R2582	B-8
C1915	B-5	IC2504	B-8	R1513	B-3	R2583	B-8
C1933	B-5	IC2505	B-7	R1514	B-2	R2585	B-8
C2018	C-1			R1515	B-2	R2587	B-8
C2029	C-1	L1400	A-2	R1516	B-3	R2599	A-8
C2033	C-1	L1500	C-2	R1517	B-2	R2903	F-7
C2042	C-1	L1501	B-2	R1518	B-2	R2904	F-7
C2043	B-1	L1601	A-4	R1519	C-2	R2906	F-7
C2044	C-1	L1602	A-1	R1521	B-2	R2907	F-7
C2045	B-1	L1603	A-4	R1522	B-3	R3203	C-8
C2046	C-1	L2400	C-5	R1618	A-4	R3205	C-8
C2047	B-1	L2512	B-7	R1619	A-4	R3246	D-9
C2048	C-1	L3200	D-9	R1620	A-3	R3206	C-8
C2049	B-1	L3201	E-9	R1621	A-4	R3208	C-8
C2050	B-1	L3202	E-7	R1622	A-4	R3210	E-9
C2051	B-1	L3203	D-9	R1623	B-3	R3211	D-9
C2053	C-2	L3204	D-8	R1624	A-4	R3215	E-9
C2400	C-5	L3205	D-8	R1625	A-4	R3216	E-7
C2402	D-5	L3206	E-8	R1626	A-3	R3246	D-9
C2403	D-6	L3207	D-7	R1627	A-3	R3257	C-7
C2405	D-6	L3208	E-8	R1628	B-3	R3258	C-7
C2408	C-5	L3209	D-8	R1629	C-5	R3259	C-7
C2409	D-6	L3214	E-8	R1630	C-5	R3260	C-7
C2410	D-6	L3215	E-8	R1689	A-4	R3261	C-7
C2500	B-9	L3216	E-8	R1909	A-5	R3262	C-7
C2507	B-8	L3217	E-8	R1938	B-6	R3264	E-9
C2565	B-8			R1939	B-5	R3268	E-9
C2566	B-8	LF3200	C-8	R1940	B-5	R3270	E-9
C2569	B-6			R1941	B-5	R3272	D-7
C2570	B-8	PS3200	C-9	R1942	A-6	R3274	E-7
C2572	B-8	PS3201	C-9	R1943	A-5	R3276	D-7
C2573	B-9	PS3202	C-9	R1944	A-6	R3277	E-7
C2574	B-7	PS3203	C-9	R1945	C-6	R3283	D-7
C2575	B-8	PS3204	C-9	R1946	A-6	R3284	D-7
C2576	B-6	PS3205	C-9	R2050	C-1	R3285	D-7
C2577	B-7	PS3206	C-9	R2051	C-1	R3286	D-7
C2579	B-6			R2052	C-1	R3287	D-7
C2582	B-8	Q1402	A-1	R2053	C-1	R3299	D-7
C2583	B-8	Q1403	A-1	R2401	C-5	R3300	C-7
C2585	B-8	Q1405	B-1	R2402	C-4	R3302	C-7
C2586	B-8	Q1406	A-2	R2405	C-5	T3200	D-8
C2587	B-8	Q1500	B-1	R2406	D-5	T3201	E-7
C2588	B-8	Q1501	B-2	R2407	C-5		
C2589	B-7	Q1502	B-2	R2408	C-5	X1600	A-3
C3205	E-9	Q1503	B-2	R2409	C-5	X2400	D-6
C3221	C-7	Q2507	B-8	R2410	C-5		
C3236	E-8	Q3203	C-8	R2411	C-5		
C3237	C-7	Q3204	C-8	R2415	C-6		

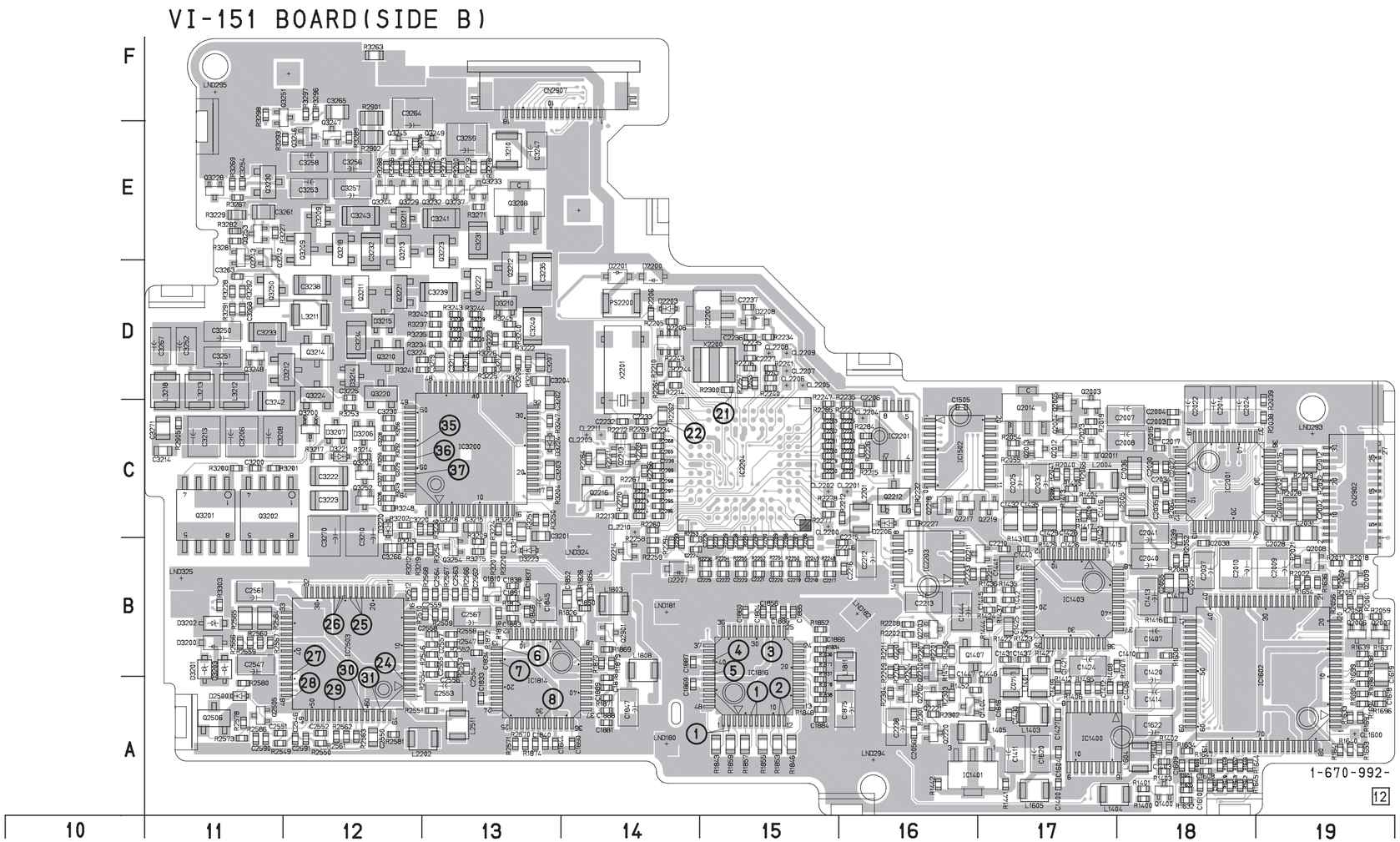
VI-151 (REC/PB AMP, TIMING GENERATOR, VIDEO INTERFACE, DCT/IDCT, LINE OUT, AUDIO PROCESSOR, HI CONTROL, MECHANISM CONTROL, DRUM/CAPSTAN MOTOR DRIVE, DC/DC CONVERTER) PRINTED WIRING BOARD

— Ref. No. VI-151 Board; 10,000 Series —



VI-151 (REC/PB AMP, TIMING GENERATOR, VIDEO INTERFACE, DCT/IDCT, LINE OUT, AUDIO PROCESSOR, HI CONTROL, MECHANISM CONTROL, DRUM/CAPSTAN MOTOR DRIVE, DC/DC CONVERTER) PRINTED WIRING BOARD

— Ref. No. VI-151 Board; 10,000 Series —

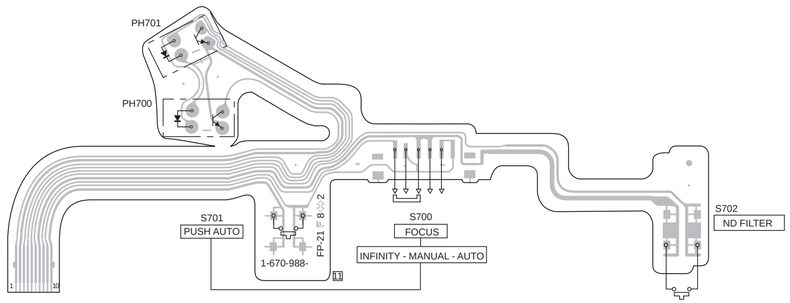


VI-151 BOARD (SIDE B)

C1400	A-17	C2016	C-19	C3219	D-13	L1401	A-17	Q3247	E-12	R1857	A-15	R2252	B-15	R2902	E-12
C1403	A-18	C2017	C-18	C3220	C-12	L1402	A-17	Q3248	D-11	R1859	A-15	R2253	B-14	R2905	C-11
C1406	A-18	C2022	C-18	C3222	C-12	L1403	A-17	Q3249	E-13	R1869	B-14	R2254	B-15	R3200	C-11
C1407	B-18	C2024	C-18	C3223	C-12	L1404	A-17	Q3250	D-11	R1870	B-14	R2255	B-15	R3201	C-11
C1410	B-18	C2025	C-17	C3224	D-13	L1405	A-16	Q3251	F-11	R1871	A-14	R2257	D-15	R3202	C-12
C1411	A-17	C2027	C-18	C3225	D-12	L1604	A-18	Q3252	C-12	R1872	B-13	R2258	B-14	R3204	C-13
C1412	A-17	C2028	B-19	C3226	C-12	L1605	A-17	Q3253	E-11	R1874	A-13	R2259	B-14	R3207	B-13
C1413	B-18	C2030	C-18	C3227	C-12	L1803	B-14	Q3254	B-13	R1875	B-13	R2260	C-14	R3209	B-13
C1414	A-18	C2031	C-19	C3228	C-12	L1808	B-14			R1876	B-13	R2261	D-14	R3212	B-12
C1415	B-17	C2032	C-17	C3229	C-12	L1811	B-16	R1400	A-18	R1877	B-15	R2262	C-14	R3213	C-12
C1416	C-17	C2034	C-18	C3230	C-12	L2004	C-17	R1401	A-18	R1878	A-15	R2263	C-14	R3214	C-12
C1417	B-18	C2035	C-18	C3231	E-13	L2005	C-18	R1402	A-18	R1879	B-14	R2264	C-14	R3217	C-12
C1419	A-17	C2036	C-18	C3232	E-12	L2201	C-16	R1403	A-18	R2017	B-19	R2265	C-14	R3218	D-13
C1420	B-18	C2037	B-18	C3233	D-11	L2202	A-13	R1404	C-17	R2018	B-19	R2266	C-14	R3219	B-12
C1421	B-17	C2038	B-18	C3234	D-12	L2511	A-13	R1405	C-17	R2019	C-17	R2267	C-14	R3220	B-13
C1424	B-17	C2039	B-18	C3235	D-13	L3210	E-13	R1406	A-17	R2021	B-19	R2268	C-14	R3221	C-13
C1425	B-17	C2040	B-18	C3238	D-12	L3211	D-12	R1407	B-18	R2022	B-19	R2269	C-14	R3222	D-13
C1426	B-17	C2041	C-18	C3239	D-13	L3212	D-11	R1408	A-17	R2023	C-17	R2270	C-14	R3223	D-13
C1427	A-17	C2054	B-18	C3240	D-13	L3213	D-11	R1409	C-17	R2028	C-19	R2271	C-14	R3224	C-13
C1428	C-17	C2055	B-18	C3241	E-13	L3218	D-11	R1410	A-18	R2029	C-19	R2272	C-14	R3225	D-13
C1429	C-17	C2056	A-16	C3242	E-11			R1411	C-17	R2030	C-19	R2273	C-14	R3226	D-13
C1430	A-17	C2206	C-16	C3243	E-12	PS2200	D-14	R1412	A-17	R2032	C-19	R2274	C-14	R3227	E-11
C1431	B-17	C2210	B-17	C3247	E-13			R1413	C-17	R2038	C-19	R2275	C-14	R3228	D-11
C1432	C-17	C2211	B-17	C3250	D-11	Q1400	A-18	R1415	B-16	R2039	C-19	R2276	D-15	R3229	E-11
C1435	C-17	C2212	B-16	C3251	D-11	Q1404	A-16	R1416	B-18	R2040	C-17	R2277	C-15	R3230	D-13
C1437	B-17	C2213	B-16	C3252	D-11	Q1407	B-16	R1417	C-17	R2041	C-17	R2278	C-15	R3231	D-13
C1440	B-17	C2215	B-16	C3253	E-12	Q1810	B-13	R1420	B-17	R2054	C-17	R2279	C-15	R3232	D-13
C1441	B-17	C2216	B-16	C3254	E-11	Q2003	C-17	R1422	B-17	R2055	C-17	R2280	C-15	R3233	D-13
C1442	B-17	C2217	B-15	C3256	E-12	Q2004	C-17	R1423	B-17	R2056	B-19	R2281	C-15	R3234	D-13
C1444	B-16	C2218	B-15	C3257	E-12	Q2005	C-17	R1424	B-17	R2057	B-19	R2282	C-15	R3235	D-13
C1445	B-17	C2219	B-15	C3258	E-12	Q2006	B-19	R1427	B-17	R2058	B-19	R2283	C-15	R3236	C-13
C1446	A-17	C2220	B-15	C3259	E-13	Q2007	B-19	R1429	B-17	R2059	B-19	R2284	C-16	R3237	D-13
C1447	A-16	C2221	B-15	C3261	E-11	Q2008	B-19	R1431	B-17	R2060	B-19	R2285	C-15	R3238	D-13
C1505	C-16	C2222	B-15	C3263	D-11	Q2009	B-19	R1435	B-17	R2061	B-19	R2286	B-15	R3239	D-13
C1604	A-17	C2223	B-15	C3264	F-12	Q2011	C-17	R1436	B-17	R2062	B-18	R2287	B-15	R3240	D-13
C1608	A-18	C2224	B-14	C3265	F-12	Q2012	C-17	R1437	B-17	R2063	B-18	R2288	B-15	R3241	D-13
C1609	A-18	C2225	B-15	C3266	B-12	Q2013	C-17	R1441	A-17	R2064	C-18	R2289	B-15	R3242	D-13
C1610	A-18	C2226	B-15	C3267	D-11	Q2014	C-17	R1442	A-16	R2065	C-17	R2290	B-15	R3243	D-13
C1611	A-18	C2227	D-15	C3268	D-11	Q2200	B-16	R1444	B-17	R2066	C-17	R2291	B-15	R3244	D-13
C1616	A-17	C2232	C-14	C3270	C-12	Q2201	B-16	R1452	A-16	R2201	B-16	R2292	B-15	R3245	D-13
C1618	A-19	C2233	C-14	C3271	C-11	Q2202	A-16	R1456	A-16	R2202	B-16	R2293	B-14	R3247	C-13
C1619	A-19	C2234	C-14			Q2203	B-16	R1495	A-17	R2203	B-16	R2294	B-14	R3248	C-12
C1620	A-17	C2235	D-15	CN2902	C-19	Q2206	D-14	R1630	B-18	R2204	B-16	R2295	C-14	R3249	C-12
C1622	A-18	C2236	D-15	CN2907	F-13	Q2211	B-17	R1632	A-18	R2205	D-14	R2296	C-14	R3250	C-13
C1804	B-15	C2237	D-15			Q2212	C-16	R1633	A-19	R2206	D-14	R2297	C-14	R3251	C-13
C1833	A-13	C2238	A-16	D2200	D-14	Q2213	C-14	R1634	A-18	R2207	B-16	R2298	C-14	R3252	C-12
C1834	B-13	C2239	C-14	D2201	D-14	Q2214	B-14	R1635	A-18	R2208	B-16	R2299	C-14	R3253	C-12
C1837	B-13	C2546	A-12	D2203	D-14	Q2216	C-14	R1636	B-19	R2209	B-16	R2300	D-15	R3254	B-13
C1838	B-13	C2547	B-11	D2206	C-16	Q2217	C-16	R1637	B-19	R2210	D-14	R2301	A-16	R3255	C-12
C1840	A-13	C2550	A-12	D2207	B-14	Q2218	C-16	R1638	B-19	R2211	B-16	R2302	A-16	R3256	C-12
C1844	A-13	C2551	A-11	D2208	D-15	Q2219	C-17	R1639	B-19	R2212	C-16	R2303	A-16	R3263	F-12
C1845	B-13	C2552	A-12	D2500	A-11	Q2220	A-16	R1640	A-19	R2213	C-14	R2304	A-16	R3265	E-12
C1846	B-13	C2553	A-13	D3200	B-11	Q2221	A-16	R1641	A-19	R2214	D-14	R2509	B-13	R3266	E-12
C1847	A-14	C2554	b-13	D3201	B-11	Q2505	A-11	R1642	A-18	R2215	C-16	R2510	B-13	R3267	E-11
C1850	B-14	C2555	B-13	D3202	B-11	Q2506	A-11	R1643	A-18	R2221	C-16	R2512	B-12	R3269	E-11
C1852	B-14	C2556	B-13	D3203	B-11	Q2901	B-14	R1644	A-18	R2222	C-16	R2546	B-13	R3271	E-13
C1854	B-14	C2557	B-13	D3206	C-12	Q3200	C-12	R1645	A-18	R2223	C-16	R2547	B-13	R3273	E-13
C1856	B-15	C2558	B-13	D3207	C-12	Q3201	C-11	R1646	A-18	R2224	C-16	R2549	A-11	R3275	B-13
C1860	B-15	C2559	B-13	D3209	E-12	Q3202	C-11	R1647	A-18	R2225	C-16	R2550	A-12	R3278	E-13
C1866	B-15	C2561	B-11	D3210	D-13	Q3207	C-12	R1648	A-18	R2226	C-16	R2551	A-13	R3279	E-13
C1869	A-14	C2562	B-13	D3211	E-12	Q3208	E-13	R1649	A-18	R2227	C-16	R2552	B-13	R3280	E-13
C1875	A-16	C2563	B-13	D3212	D-12	Q3209	E-12	R1650	A-18	R2229	C-16	R2553	B-13	R3281	E-11
C1878	A-14	C2564	B-13	D3214	D-12	Q3210	D-12	R1651	A-18	R2230	C-15	R2554	B-13	R3282	E-11
C1881	A-14	C2567	B-13	D3215	D-12	Q3211	D-12	R1652	A-18	R2231	C-16	R2556	B-11	R3288	E-12
C1883	B-13	C2590	A-11	D3220	C-12	Q3212	D-13	R1653	A-19	R2232	C-16	R2557	B-11	R3289	E-12
C1884	A-15	C2591	A-12	D3221	C-12	Q3213	E-12	R1654	B-19	R2233	B-16	R2558	B-13	R3290	E-13
C1885	B-15	C3200	C-11	D3223	B-13	Q3214	D-12	R1694	A-19	R2234	D-15	R2559	B-11	R3291	D-11
C1886	B-15	C3201	C-13	D3224	C-13	Q3218	E-12	R1695	A-19	R2235	C-16	R2560	B-11	R3292	D-11
C1887	B-14	C3202	C-13			Q3220	D-12	R1696	A-19	R2236	B-15	R2561	A-12	R3293	E-12
C1888	A-14	C3203	C-13	IC1400	A-17	Q3221	D-12	R1697	A-19	R2237	B-15	R2562	A-12	R3294	E-13
C1889	A-14	C3204	D-13	IC1401	A-16	Q3222	D-13	R1698	A-19	R2238	B-15	R2563	A-12	R3295	E-12
C1890	A-14	C3206	C-11	IC1403	B-17	Q3223	E-13	R1699	B-19	R2239	B-15	R2564	B-11	R3296	F-12
C1891	B-13	C3207	D-13	IC1502	C-16	Q3224	D-12	R1826	B-14	R2240	D-15	R2565	B-11	R3297	F-12
C2001	C-19	C3208	C-11	IC1602	B-19	Q3228	E-11	R1828	B-14	R2241	D-15	R2566	B-13	R3298	F-11
C2002	C-19	C3209	D-13	IC1814	A-13	Q3229	E-12	R1834	B-15	R2242	D-15	R2567	B-13	R3301	E-12
C2003	C-18	C3210	C-12	IC1816	B-15	Q3230	E-11	R1836	B-15	R2243	D-14	R2568	B-13	R3303	B-11
C2004	C-18	C3211	C-13	IC2001	C-18	Q3232	E-13	R1837	A-15	R2244	D-14	R2570	A-13		
C2007	C-18	C3212	D-13	IC2200	D-15	Q3233	E-13	R1838	A-15	R2245	D-15	R2571	A-13	X2200	D-15
C2008	C-18	C3213	C-11	IC2201	C-16	Q3237	E-13	R1843	A-15	R2246	B-16	R2573	A-11	X2201	D-14
C2009	B-19	C3214	C-11	IC2203	B-16	Q3242	E-11	R1846	A-15	R2247	C-15	R2578	A-11		
C2010	B-18	C3215	C-13	IC2204	C-15	Q3243	E-11	R1848	A-15	R2248	B-15	R2580	A-11		
C2012	C-19	C3216	D-13	IC2503	B-12	Q3244	E-12	R1852	B-15	R2249	B-15	R2581	A-12		
C2014	C-18	C3217	D-13	IC3200	C-13	Q3245	E-12	R1853	A-15	R2250	B-15	R2586	A-11		
C2015	C-18	C3218	C-13			Q3246	E-12	R1855	A-15	R2251	B-15	R2901	F-12		

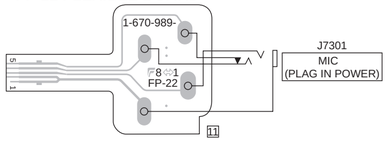
FP-21 (FOCUS SW) FLEXIBLE BOARD

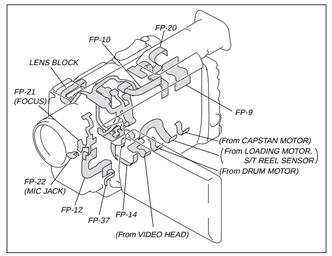
FP-21 FLEXIBLE BOARD

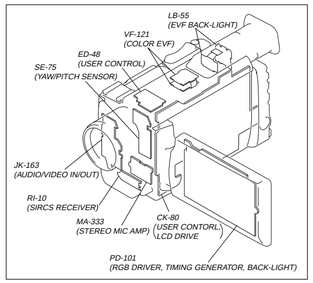


FP-22 (MIC JACK) FLEXIBLE BOARD

FP-22 FLEXIBLE BOARD



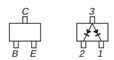




For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor Diode



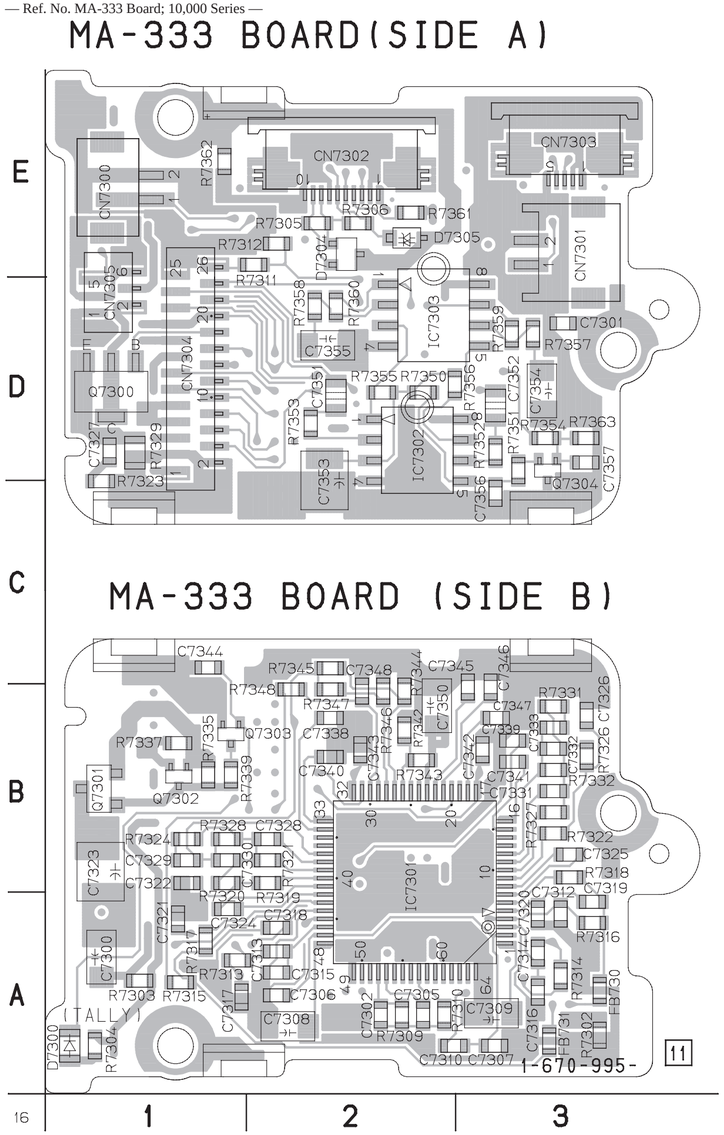
There are few cases that the part printed on this diagram isn't mounted in this model.

MA-333 BOARD

C7300	A-1	C7348	B-2	R7313	A-1
C7301	D-3	C7350	B-2	R7314	A-3
C7302	A-2	C7351	D-2	R7315	A-1
C7305	A-2	C7352	D-3	R7316	A-3
C7306	A-2	C7353	D-2	R7317	A-1
C7307	A-3	C7354	D-3	R7318	B-3
C7308	A-2	C7355	D-2	R7319	B-2
C7309	A-3	C7356	C-3	R7320	B-1
C7310	A-2	C7357	D-3	R7321	B-2
C7312	A-3			R7322	B-3
C7313	A-2	CN7300	E-1	R7323	C-1
C7314	A-3	CN7301	E-3	R7324	B-1
C7315	A-2	CN7302	E-2	R7326	B-3
C7316	A-3	CN7303	E-3	R7327	B-3
C7317	A-1	CN7304	D-1	R7328	B-1
C7318	A-2	CN7305	D-1	R7329	D-1
C7319	A-3			R7331	B-3
C7320	A-3	D7300	A-1	R7332	B-3
C7321	A-1	D7304	E-2	R7335	B-1
C7322	B-1	D7305	E-2	R7337	B-1
C7323	B-1			R7339	B-1
C7324	A-1	FB730	A-3	R7342	B-2
C7325	B-3	FB731	A-3	R7343	B-2
C7326	B-3			R7344	B-2
C7327	D-1	IC7301	B-2	R7345	C-2
C7328	B-2	IC7302	D-2	R7346	B-2
C7329	B-1	IC7303	D-2	R7347	B-2
C7330	B-1			R7348	B-2
C7331	B-3	Q7300	D-1	R7350	D-2
C7332	B-3	Q7301	B-1	R7351	D-3
C7333	B-3	Q7302	B-1	R7352	D-3
C7336	B-3	Q7303	B-1	R7353	D-2
C7337	B-3	Q7304	D-3	R7354	D-3
C7338	B-2			R7355	D-2
C7339	B-3	R7302	A-3	R7356	D-3
C7340	B-2	R7303	A-1	R7357	D-3
C7341	B-3	R7304	A-1	R7358	D-2
C7342	B-3	R7305	E-2	R7359	D-3
C7343	B-2	R7306	E-2	R7360	D-2
C7344	C-1	R7309	A-2	R7361	E-2
C7345	C-3	R7310	A-2	R7362	E-1
C7346	C-3	R7311	E-2	R7363	D-3
C7347	B-3	R7312	E-2		

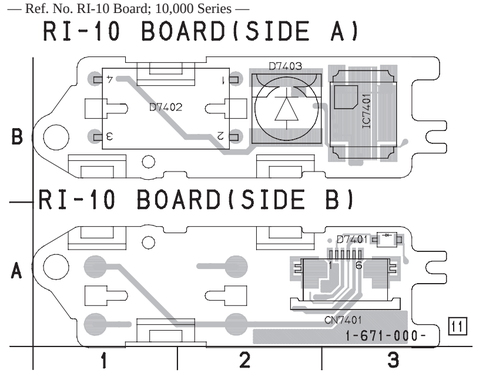
MA-333 (STEREO MIC AMP) PRINTED WIRING BOARD

— Ref. No. MA-333 Board; 10,000 Series —



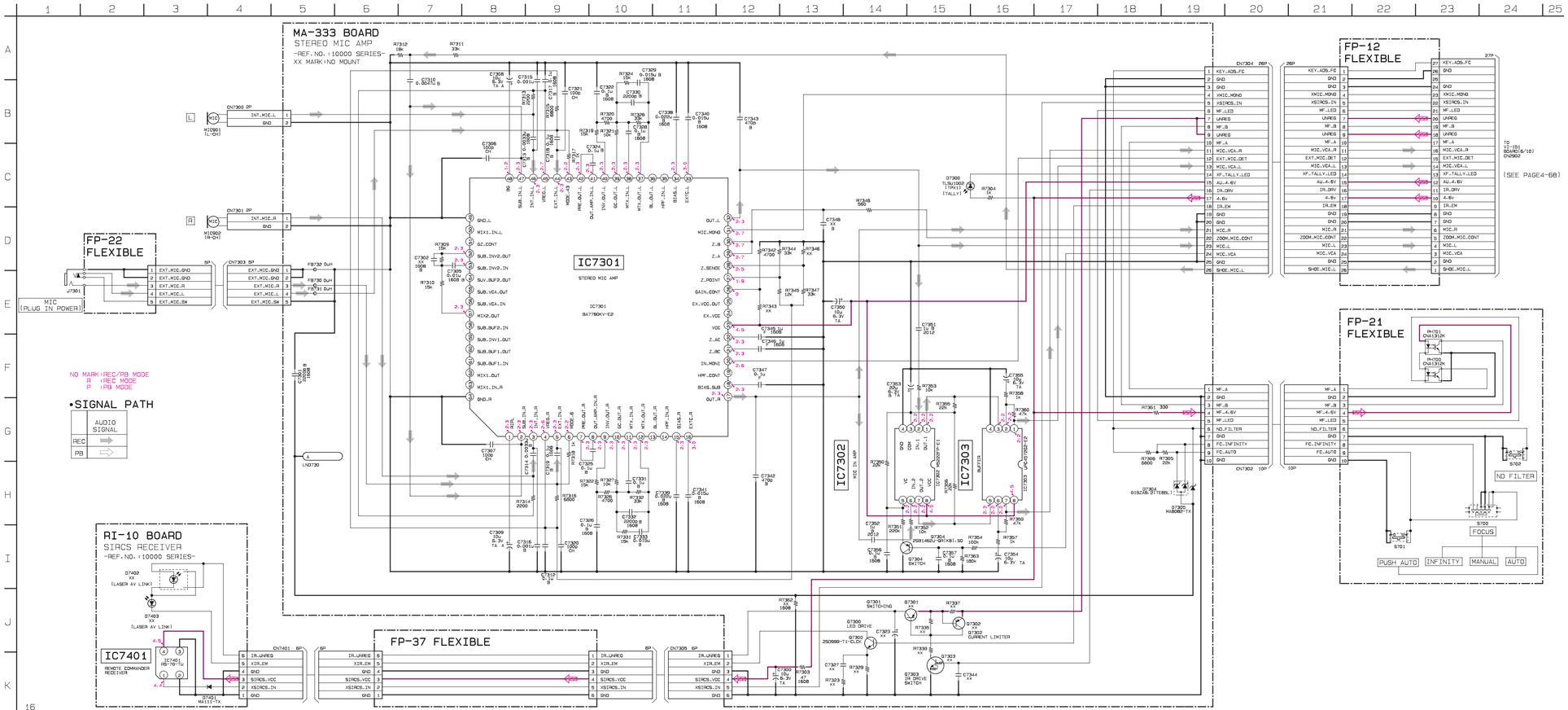
RI-10 (SIRCS RECEIVER) PRINTED WIRING BOARD

— Ref. No. RI-10 Board; 10,000 Series —



RI-10 BOARD

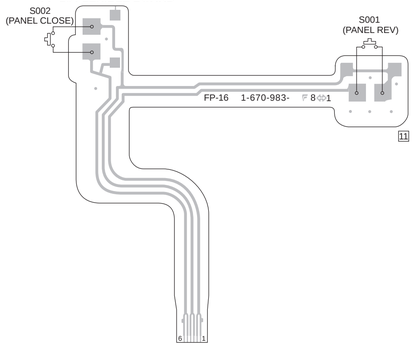
CN7401	A-3
D7401	A-3
D7402	B-1
D7403	B-2
IC7401	B-3



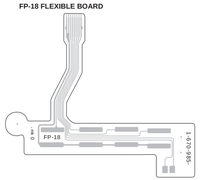
STEREO MIC AMP MA-333 / SIRCS RECEIVER RI-10

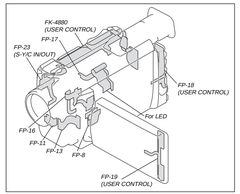
FP-16 (PANEL SWITCH) FLEXIBLE BOARD

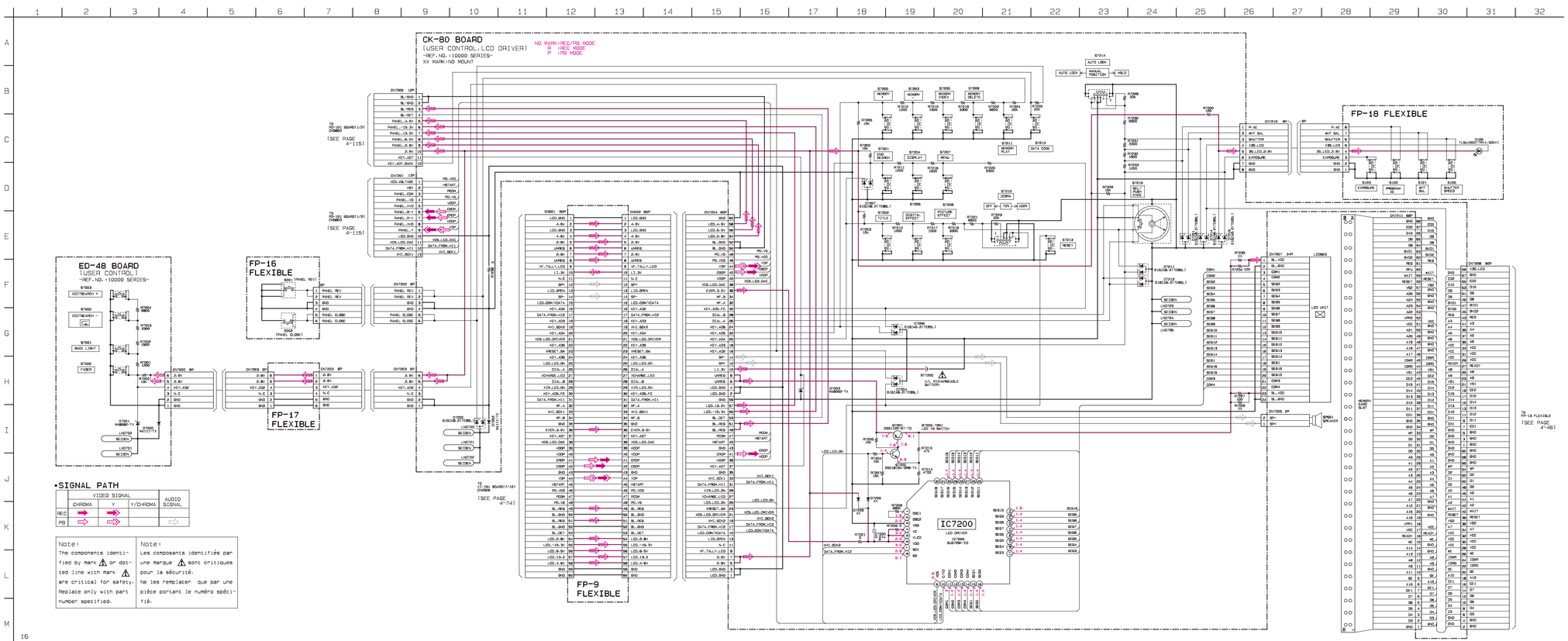
FP-16 FLEXIBLE BOARD



FP-18 (USER CONTROL) FLEXIBLE BOARD







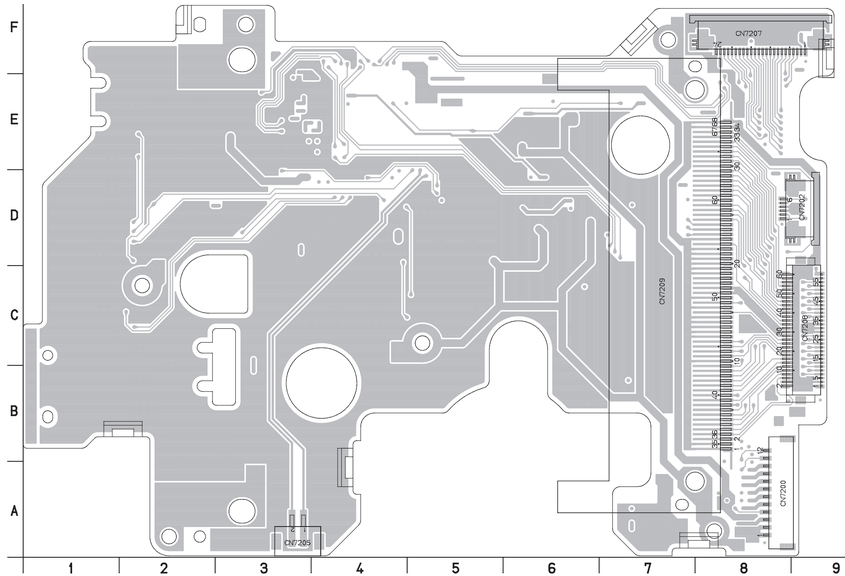
•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	⇒	⇒		⇨
PB	⇨	⇨		⇨

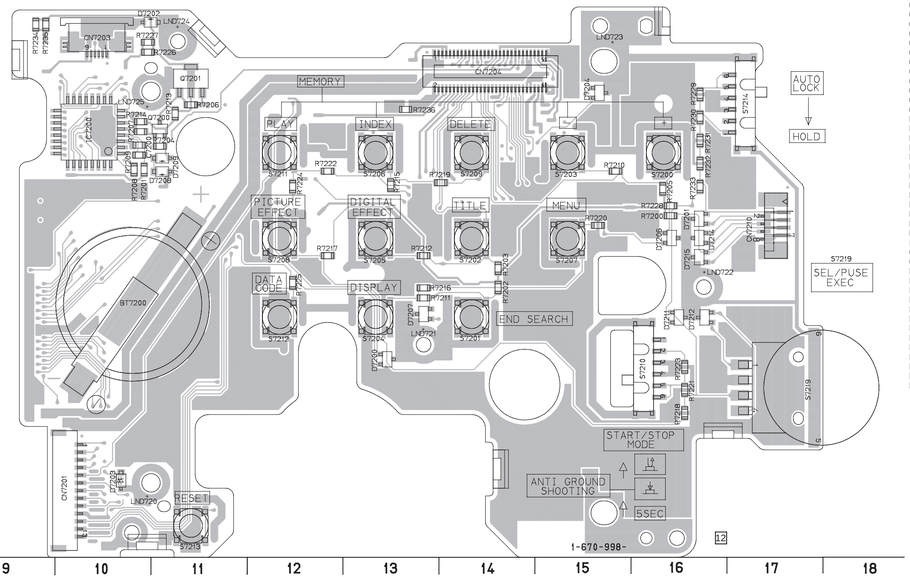
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

CK-80 (USER CONTROL) PRINTED WIRING BOARD
— Ref. No. CK-80 Board; 10,000 Series —

CK-80 BOARD(SIDE A)



CK-80 BOARD(SIDE B)

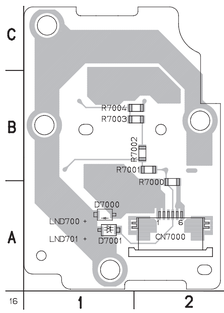


CK-80 BOARD

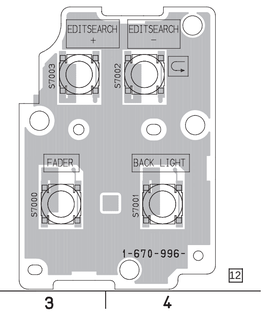
BT7200	C-10	R7213	E-11
C7200	E-10	R7214	E-10
C7200	E-10	R7215	D-13
CN7200	A-8	R7216	C-13
CN7201	A-10	R7217	D-12
CN7202	D-9	R7218	B-16
CN7203	F-10	R7219	D-14
CN7204	F-14	R7220	D-15
CN7205	A-3	R7221	B-16
CN7207	F-8	R7222	E-12
CN7208	C-9	R7223	B-16
CN7209	C-7	R7224	D-12
CN7210	D-17	R7225	C-12
D7200	C-13	R7226	F-10
D7201	D-16	R7227	F-10
D7202	F-10	R7228	D-16
D7203	A-10	R7229	E-16
D7204	E-15	R7230	E-16
D7206	D-16	R7231	E-16
D7207	C-13	R7232	E-16
D7208	E-11	R7233	D-16
D7209	E-11	R7234	F-9
D7211	C-16	R7235	F-9
D7212	C-16	R7236	E-13
D7214	D-16	S7200	E-16
D7215	D-16	S7201	C-14
IC7200	E-10	S7202	D-14
Q7200	E-11	S7203	E-15
Q7201	E-11	S7204	C-13
R7200	D-16	S7205	D-13
R7201	E-10	S7206	E-13
R7202	C-14	S7207	D-15
R7203	D-14	S7208	D-12
R7204	E-11	S7209	E-14
R7205	D-16	S7210	B-16
R7206	E-11	S7211	E-12
R7207	E-10	S7212	C-12
R7208	E-10	S7213	A-11
R7209	E-10	S7214	E-17
R7210	E-15	S7219	B-17
R7211	C-13		
R7212	D-13		

ED-48 (USER CONTROL) PRINTED WIRING BOARD
— Ref. No. ED-48 Board; 10,000 Series —

ED-48 BOARD (SIDE A)

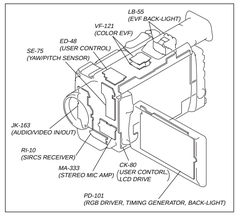


ED-48 BOARD (SIDE B)



ED-48 BOARD

CN7000	A-2		
D7000	A-1		
D7001	A-1		
R7000	A-2		
R7001	B-2		
R7002	B-2		
R7003	B-2		
R7004	B-2		
S7000	A-3		
S7001	A-4		
S7002	B-4		
S7003	B-3		



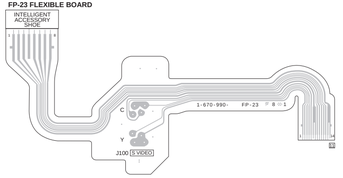
For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.

There are few cases that the part printed on this diagram isn't mounted in this model.

FP-23 (S VIDEO) FLEXIBLE BOARD

FP-23 FLEXIBLE BOARD



JK-163 BOARD

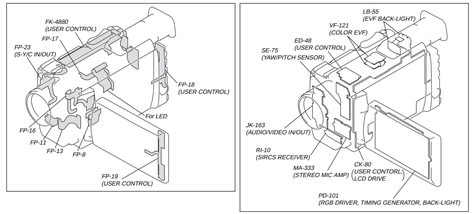
C7100	C-4	FB715	C-5
C7101	D-4	FB716	C-1
C7102	C-5	FB717	C-1
C7103	D-4	FB718	C-1
C7104	C-1		
		J7100	C-2
CN7100	B-2	J7101	C-2
CN7101	C-1	J7102	D-2
CN7102	B-5		
		L7100	C-4
D7100	B-4	L7101	C-5
D7102	B-1	L7102	C-5
D7103	C-5	L7103	D-4
D7104	D-5	L7104	C-1
D7105	C-5		
D7106	C-5	R7102	C-4
FB710	B-4	VDR711	C-4
FB711	C-4	VDR714	C-5
FB712	B-1	VDR715	B-5
FB713	D-1	VDR717	D-4
FB714	C-1	VDR718	C-5

For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

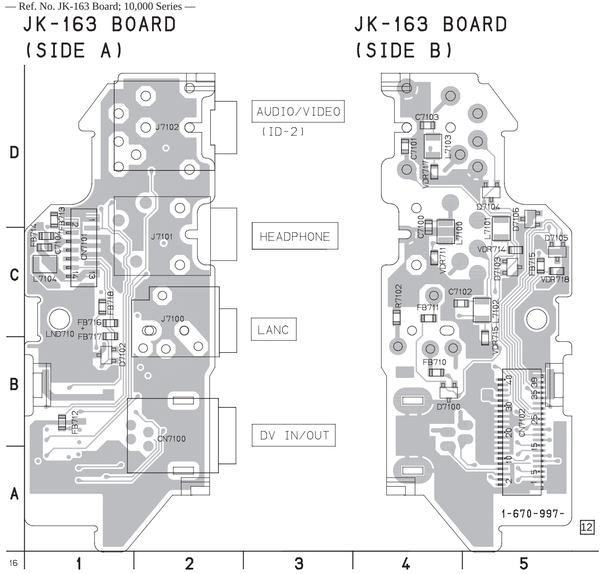
Diode

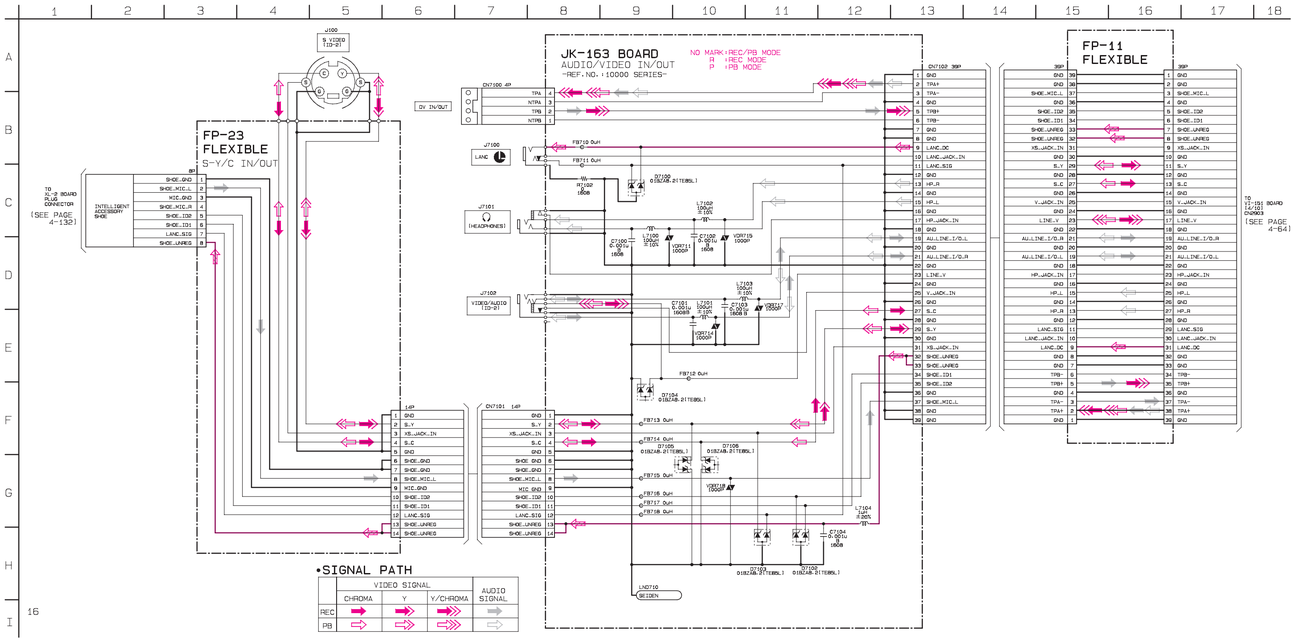
There are few cases that the part printed on this diagram isn't mounted in this model.



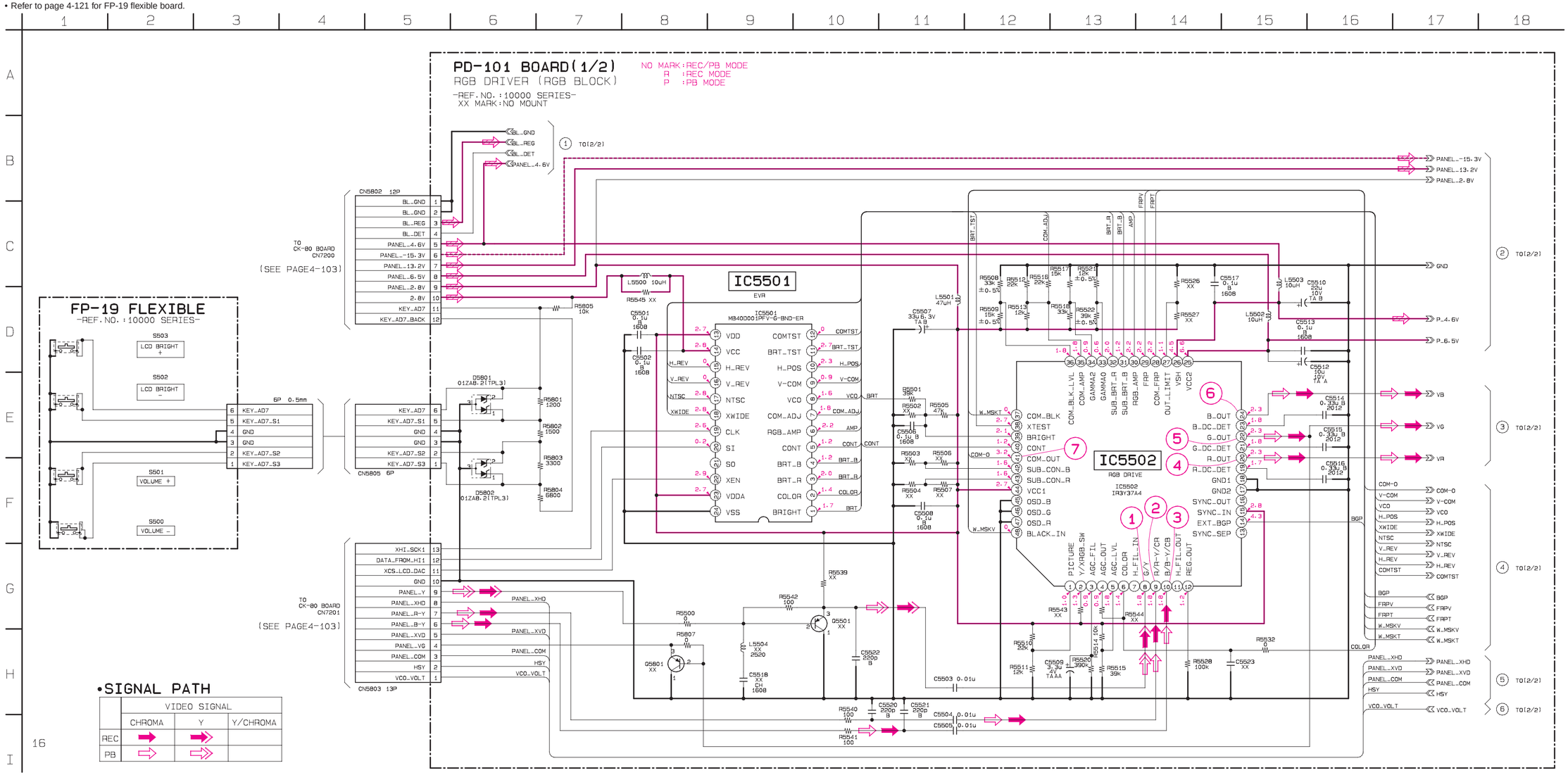
JK-163 (AUDIO/VIDEO IN/OUT) PRINTED WIRING BOARD

— Ref. No. JK-163 Board; 10,000 Series —





For schematic diagram
- Refer to page 4-121 for PD-101 printed wiring board.
- Refer to page 4-121 for FP-19 flexible board.

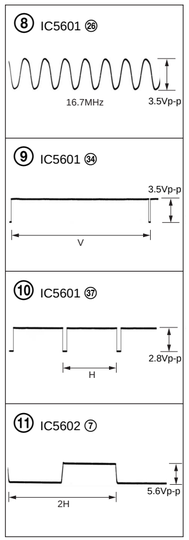


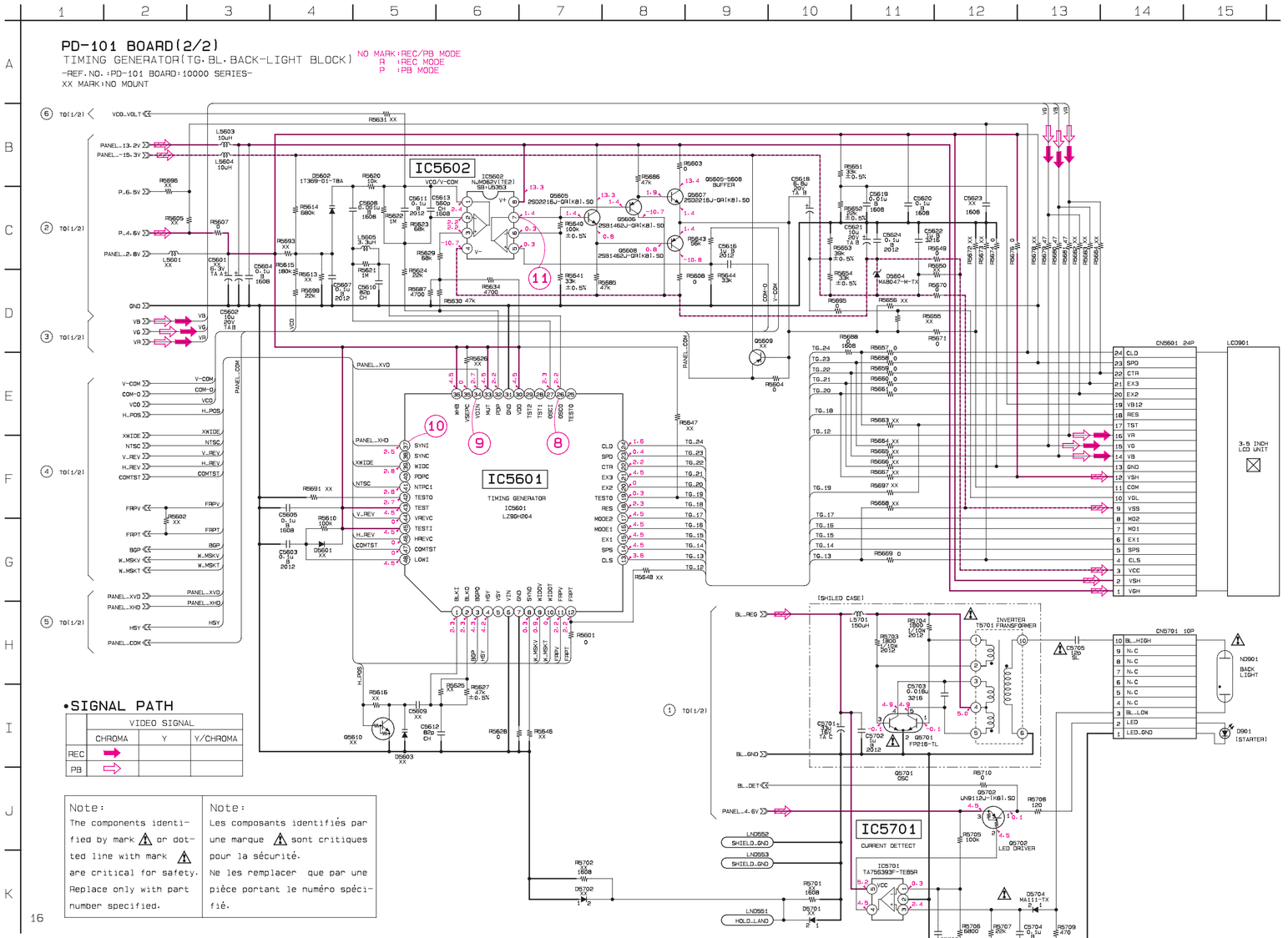
PD-101 BOARD (1/2)
CAMERA REC/PB

① IC5502 ⑧
② IC5502 ⑨
③ IC5502 ⑩
④ IC5502 ⑳
⑤ IC5502 ㉒
⑥ IC5502 ㉔
⑦ IC5502 ㊶

RGB DRIVER
PD-101 (1/2)

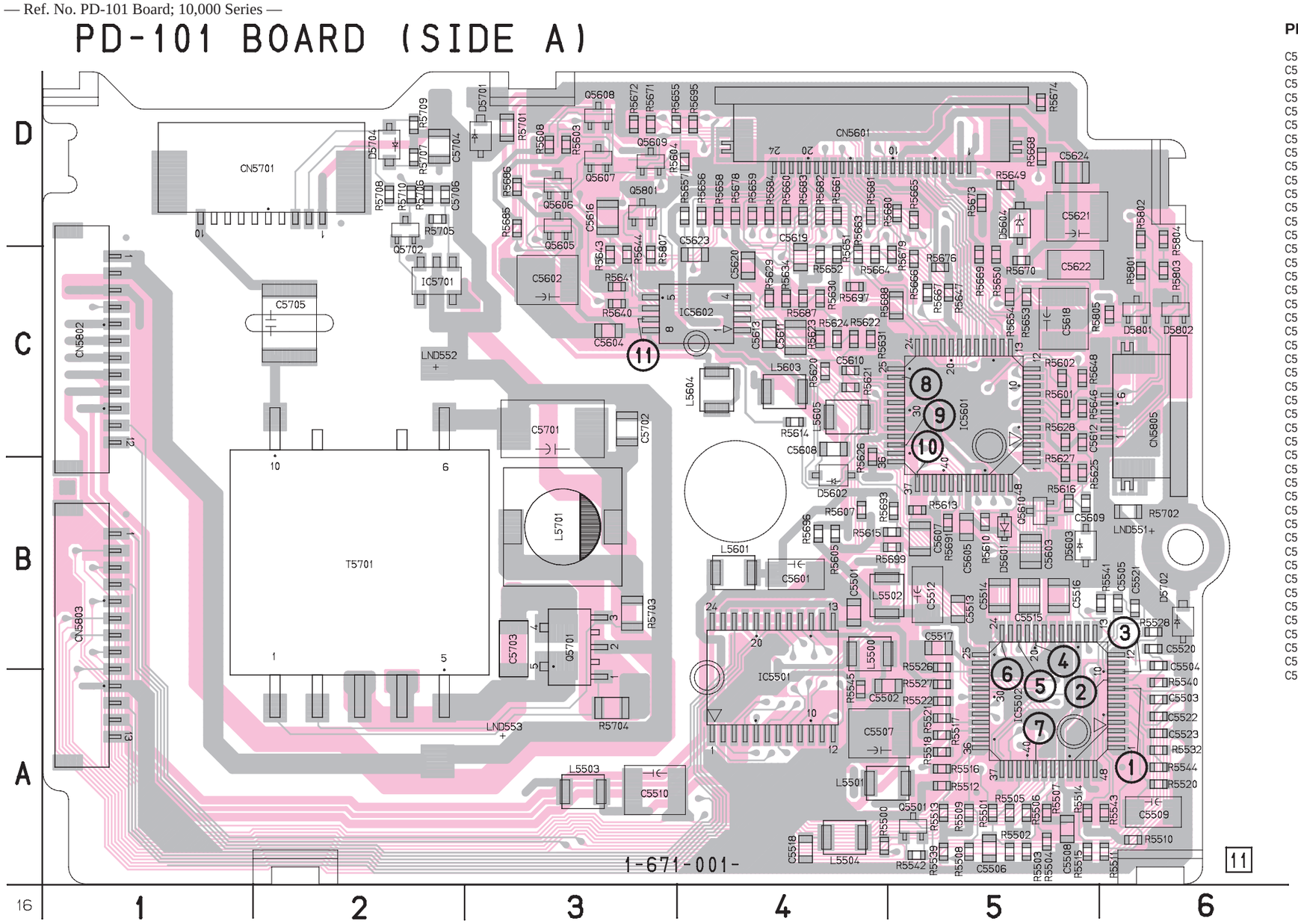
PD-101 BOARD (2/2)
CAMERA REC/PB





PD-101 (RGB DRIVER, TIMING GENERATOR, BACK-LIGHT) PRINTED WIRING BOARD

— Ref. No. PD-101 Board; 10,000 Series —

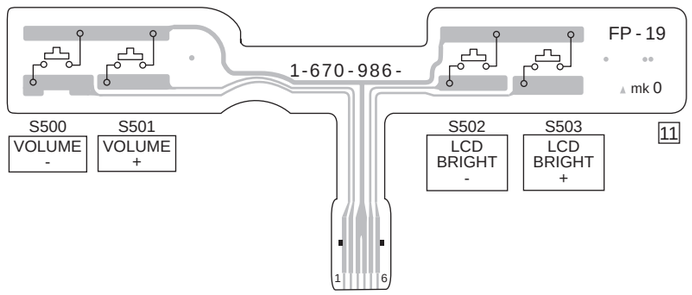


PD-101 BOARD

C5501	B-4	C5706	D-2	R5501	A-5	R5623	C-4	R5682	D-4
C5502	A-4			R5502	A-5	R5624	C-4	R5683	D-4
C5503	A-6	CN5601	D-4	R5503	A-5	R5625	B-5	R5684	D-4
C5504	B-6	CN5701	D-2	R5504	A-5	R5626	C-4	R5685	D-3
C5505	B-6	CN5802	C-1	R5505	A-5	R5627	B-5	R5686	D-3
C5506	A-5	CN5803	B-1	R5506	A-5	R5628	C-5	R5687	C-4
C5507	A-4	CN5805	C-6	R5507	A-5	R5629	C-4	R5688	C-5
C5508	A-5			R5508	A-5	R5630	C-4	R5691	B-5
C5509	A-6	D5601	B-5	R5509	A-5	R5631	C-4	R5693	B-5
C5510	A-3	D5602	B-4	R5510	A-6	R5634	C-4	R5695	D-4
C5512	B-5	D5603	B-5	R5511	A-6	R5640	C-3	R5696	B-4
C5513	B-5	D5604	D-5	R5512	A-5	R5641	C-3	R5697	C-4
C5514	B-5	D5701	D-3	R5513	A-5	R5643	C-3	R5699	B-5
C5515	B-5	D5702	B-6	R5514	A-5	R5644	C-3	R5701	D-3
C5516	B-5	D5704	D-2	R5515	A-5	R5646	C-5	R5702	B-6
C5517	B-5	D5801	C-6	R5516	A-5	R5647	C-5	R5703	B-3
C5518	A-4	D5802	C-6	R5517	A-5	R5648	C-5	R5704	A-3
C5520	B-6			R5518	A-5	R5649	D-5	R5705	D-2
C5521	B-6	IC5501	A-4	R5520	A-6	R5650	C-5	R5706	D-2
C5522	A-6	IC5502	A-5	R5521	A-5	R5651	C-4	R5707	D-2
C5523	A-6	IC5601	C-5	R5522	A-5	R5652	C-4	R5708	D-2
C5601	B-4	IC5602	C-4	R5526	A-5	R5653	C-5	R5709	D-2
C5602	C-3	IC5701	C-2	R5527	A-5	R5654	C-5	R5710	D-2
C5603	B-5			R5528	B-6	R5655	D-3	R5801	C-6
C5604	C-3	L5500	B-4	R5532	A-6	R5656	D-4	R5802	D-6
C5605	B-5	L5501	A-4	R5539	A-5	R5657	D-4	R5803	C-6
C5607	B-5	L5502	B-4	R5540	A-6	R5658	D-4	R5804	D-6
C5608	C-4	L5503	A-3	R5541	B-6	R5659	D-4	R5805	C-6
C5609	B-5	L5504	A-4	R5542	A-5	R5660	D-4	R5807	C-3
C5610	C-4	L5601	B-4	R5543	A-6	R5661	D-4		
C5611	C-4	L5603	C-4	R5544	A-6	R5663	C-4	T5701	B-2
C5612	C-5	L5604	C-4	R5545	A-4	R5664	C-4		
C5613	C-4	L5605	C-4	R5601	C-5	R5665	D-5		
C5616	D-3	L5701	B-3	R5602	C-5	R5666	C-5		
C5618	C-5			R5603	D-3	R5667	C-5		
C5619	C-4	Q5501	A-5	R5604	D-4	R5668	D-5		
C5620	C-4	Q5605	D-3	R5605	B-4	R5669	C-5		
C5621	D-5	Q5606	D-3	R5607	B-4	R5670	C-5		
C5622	C-5	Q5607	D-3	R5608	D-3	R5671	D-3		
C5623	C-4	Q5608	D-3	R5610	B-5	R5672	D-3		
C5624	D-5	Q5609	D-3	R5613	B-5	R5673	D-5		
C5701	C-3	Q5610	B-5	R5614	C-4	R5674	D-5		
C5702	C-3	Q5701	B-3	R5615	B-5	R5676	C-5		
C5703	B-3	Q5702	D-2	R5616	B-5	R5678	D-4		
C5704	D-2	Q5801	D-3	R5620	C-4	R5679	C-5		
C5705	C-2			R5621	C-4	R5680	D-5		
		R5500	A-4	R5622	C-4	R5681	D-4		

FP-19 (USER CONTROL) FLEXIBLE BOARD

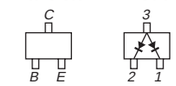
FP-19 FLEXIBLE BOARD



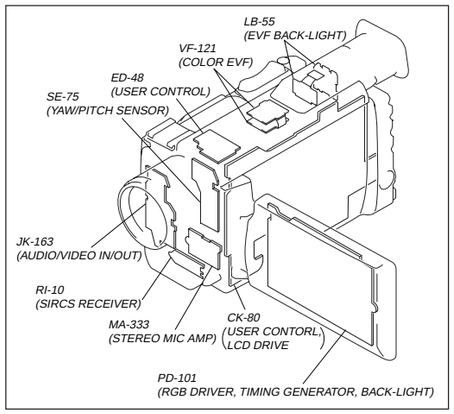
For printed wiring boards

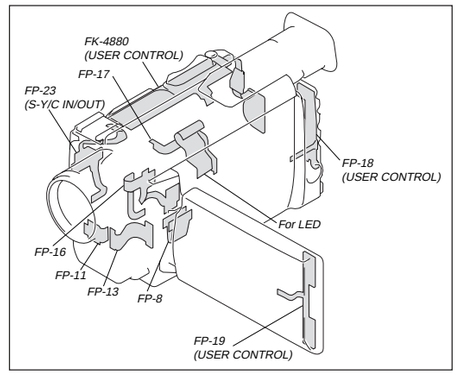
- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor Diode



There are few cases that the part printed on this diagram isn't mounted in this model.



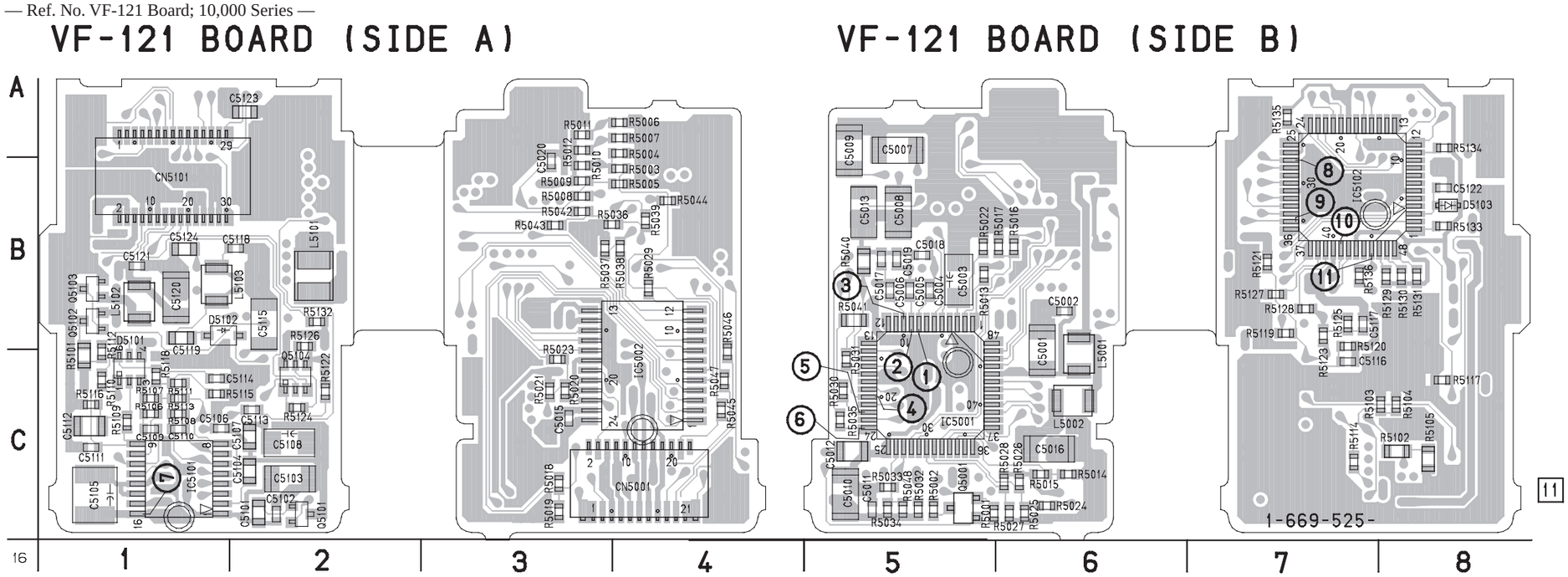


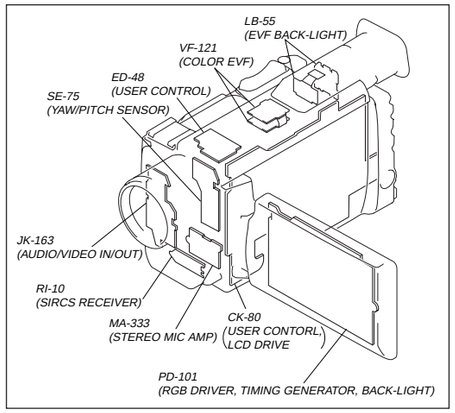
VF-121 BOARD

C5001	B-6	C5113	C-2	Q5101	C-2	R5045	C-4
C5002	B-6	C5114	C-1	Q5102	B-1	R5046	C-4
C5003	B-5	C5115	B-2	Q5103	B-1	R5047	C-4
C5004	B-5	C5116	C-7			R5101	C-1
C5005	B-5	C5117	B-7	R5001	C-5	R5102	C-8
C5006	B-5	C5118	B-2	R5003	B-4	R5103	C-7
C5007	B-5	C5119	B-1	R5005	B-4	R5104	C-8
C5008	A-5	C5120	B-1	R5008	B-3	R5105	C-8
C5009	B-5	C5121	B-1	R5009	B-3	R5106	C-1
C5010	A-5	C5122	B-8	R5013	B-5	R5107	C-1
C5011	C-5	C5123	A-2	R5016	B-6	R5108	C-1
C5012	C-5			R5018	C-3	R5109	C-1
C5013	C-5	CN5001	C-4	R5020	C-3	R5110	C-1
C5014	B-5	CN5101	B-1	R5021	C-3	R5111	C-1
C5015	C-3			R5022	B-5	R5113	C-1
C5016	C-6	D5101	C-1	R5023	C-3	R5114	C-7
C5020	B-3	D5102	B-1	R5024	C-6	R5115	C-1
C5101	C-2			R5025	C-6	R5116	C-1
C5102	C-2	IC5001	C-5	R5026	C-6	R5117	C-8
C5103	C-2	IC5002	C-4	R5029	B-4	R5118	C-1
C5104	C-2	IC5101	C-1	R5030	C-5	R5119	B-7
C5105	C-1	IC5102	B-7	R5031	C-5	R5121	B-7
C5106	C-1			R5035	C-5	R5123	B-7
C5107	C-2	L5001	C-6	R5038	B-4	R5125	B-7
C5108	C-1	L5002	C-6	R5039	B-4	R5128	B-7
C5109	C-1	L5101	B-2	R5040	B-5	R5133	B-8
C5110	C-1	L5102	B-1	R5041	B-5	R5135	A-7
C5111	C-1	L5103	B-1	R5042	B-3	R5136	B-7
C5112	C-1			R5044	B-4		

VF-121 (COLOR EVF) PRINTED WIRING BOARD

— Ref. No. VF-121 Board; 10,000 Series —

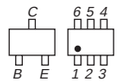




For printed wiring boards

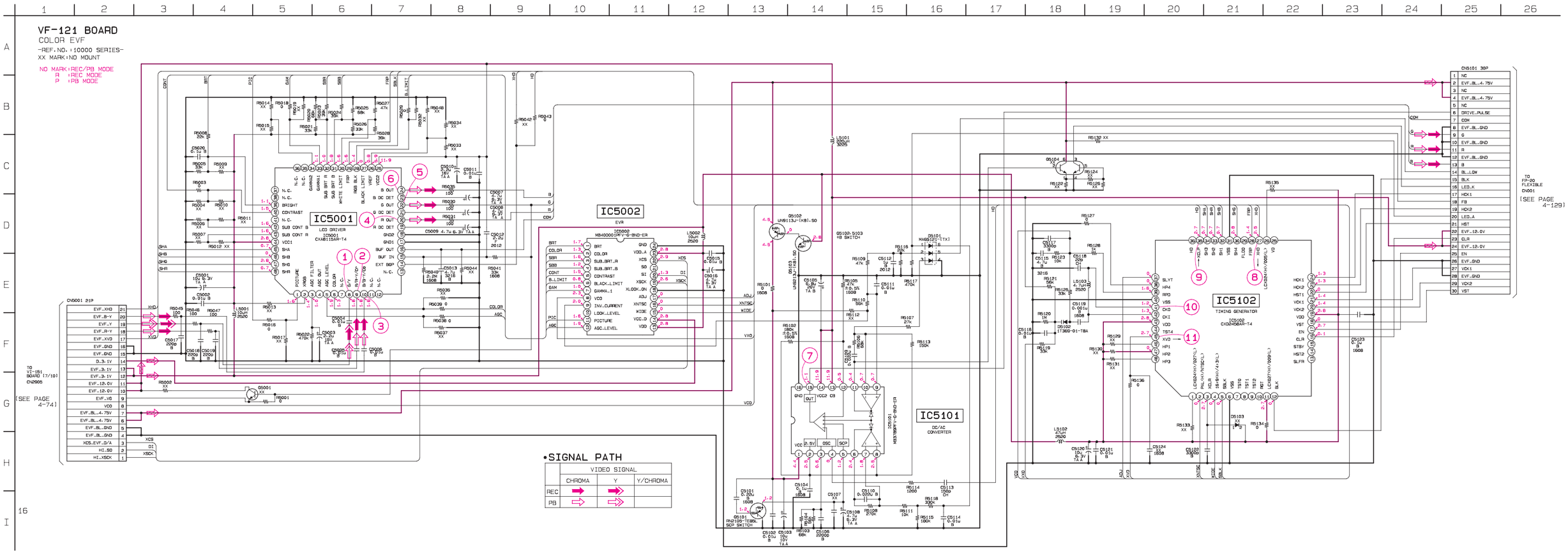
- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor

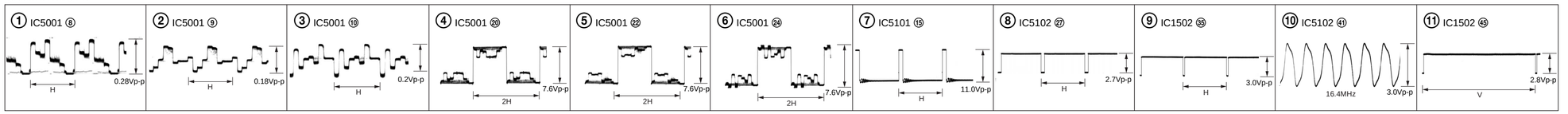


Diode

There are few cases that the part printed on this diagram isn't mounted in this model.



VF-121 BOARD
CAMERA REC/PB

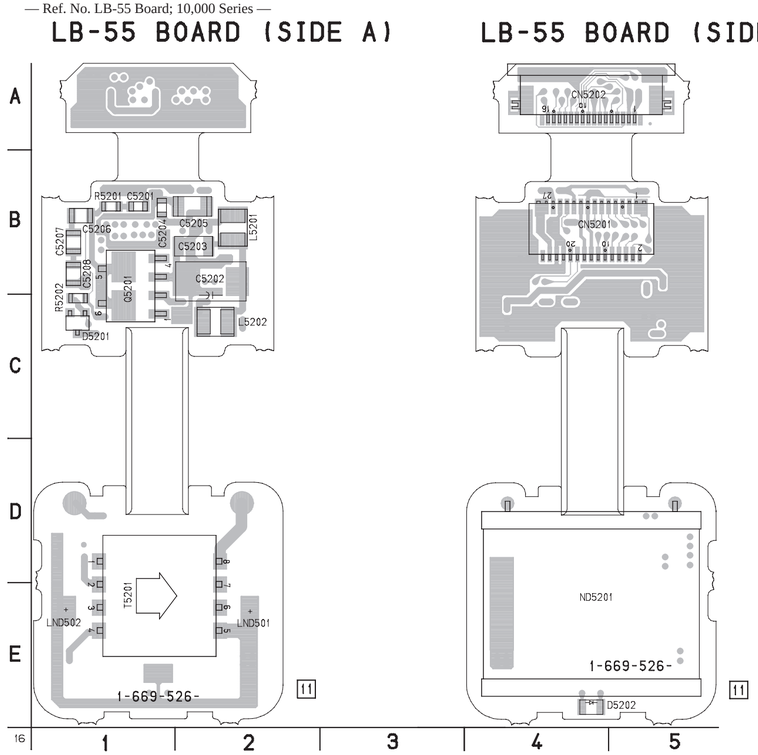


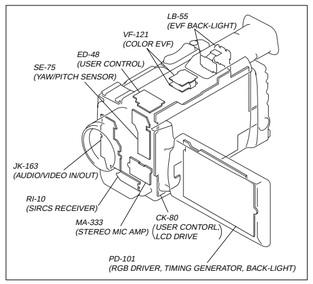
LB-55 (EVF BACK-LIGHT) PRINTED WIRING BOARD

— Ref. No. LB-55 Board; 10,000 Series —

LB-55 BOARD

C5201	B-1
C5202	B-2
C5203	B-2
C5204	B-1
C5206	B-1
C5207	B-1
C5208	B-1
CN5201	B-4
CN5202	B-4
D5201	C-1
L5201	B-2
L5202	C-2
ND5201	E-4
Q5201	B-1
R5201	B-1
R5202	C-1
T5201	E-1



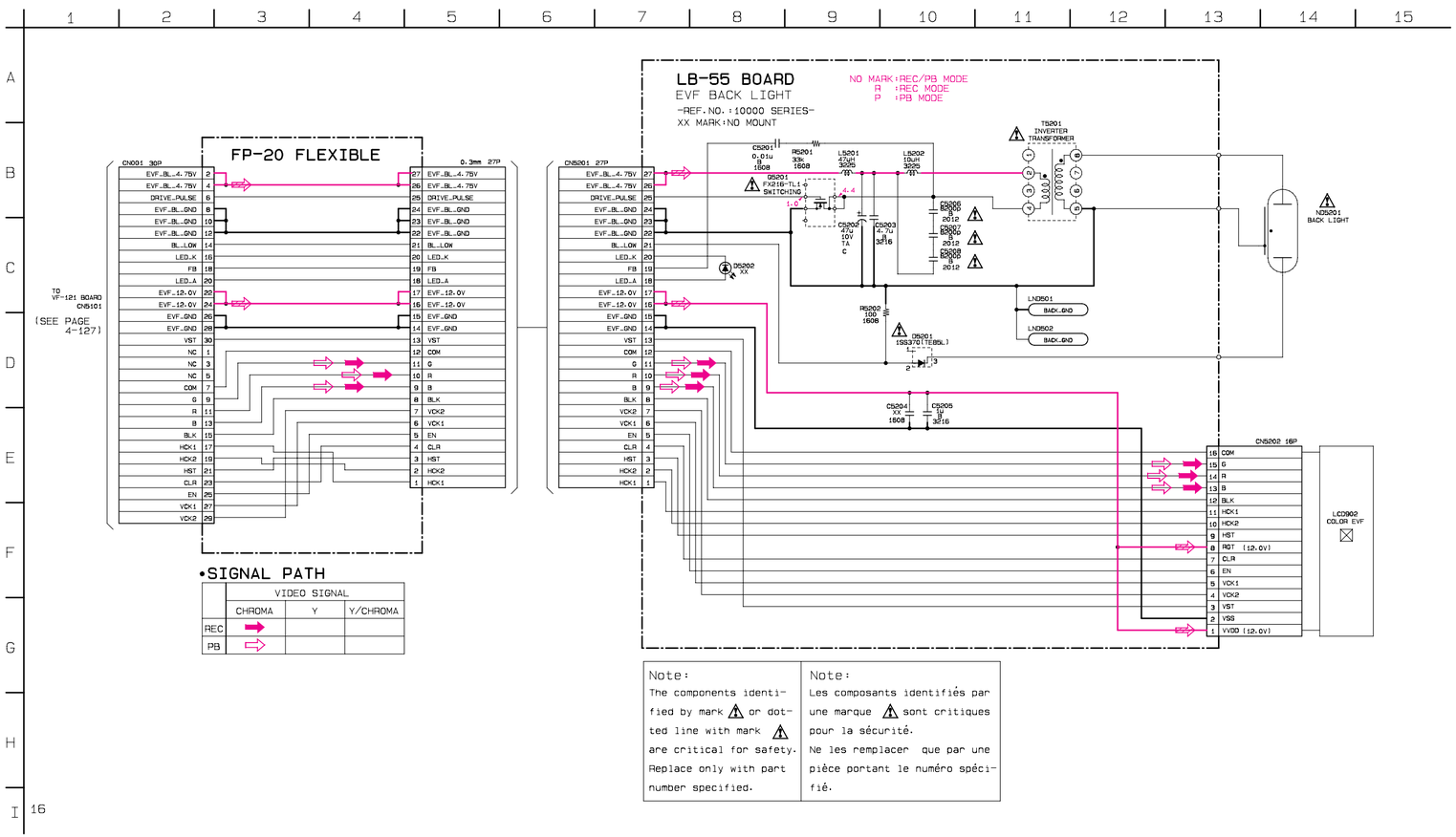


For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Diode

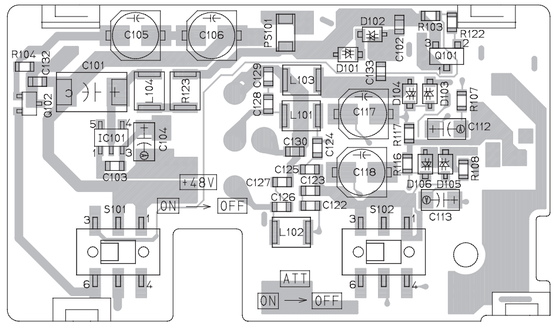
There are few cases that the part printed on this diagram isn't mounted in this model.



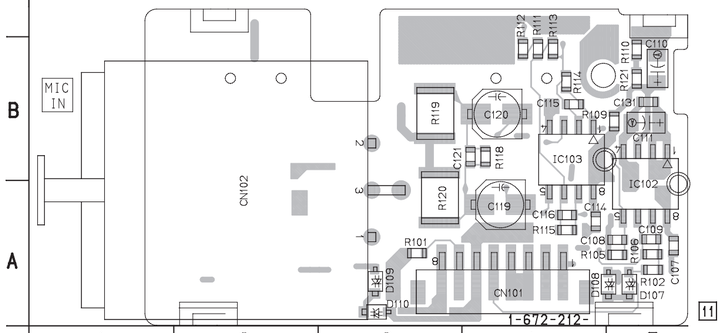
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

XL-2 (MIC AMP) PRINTED WIRING BOARD
— Ref. No. XL-2 Board; 9,000 Series —

XL-2 BOARD(SIDE A)



XL-2 BOARD(SIDE B)



For printed wiring boards

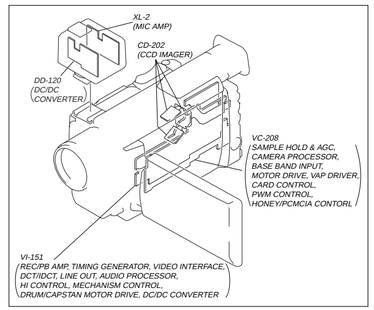
- This board is four-layer print board. However, the patterns of layers two and three have not been included in the diagram.
- Chip parts

Transistor

There are few cases that the part printed on this diagram isn't mounted in this model.

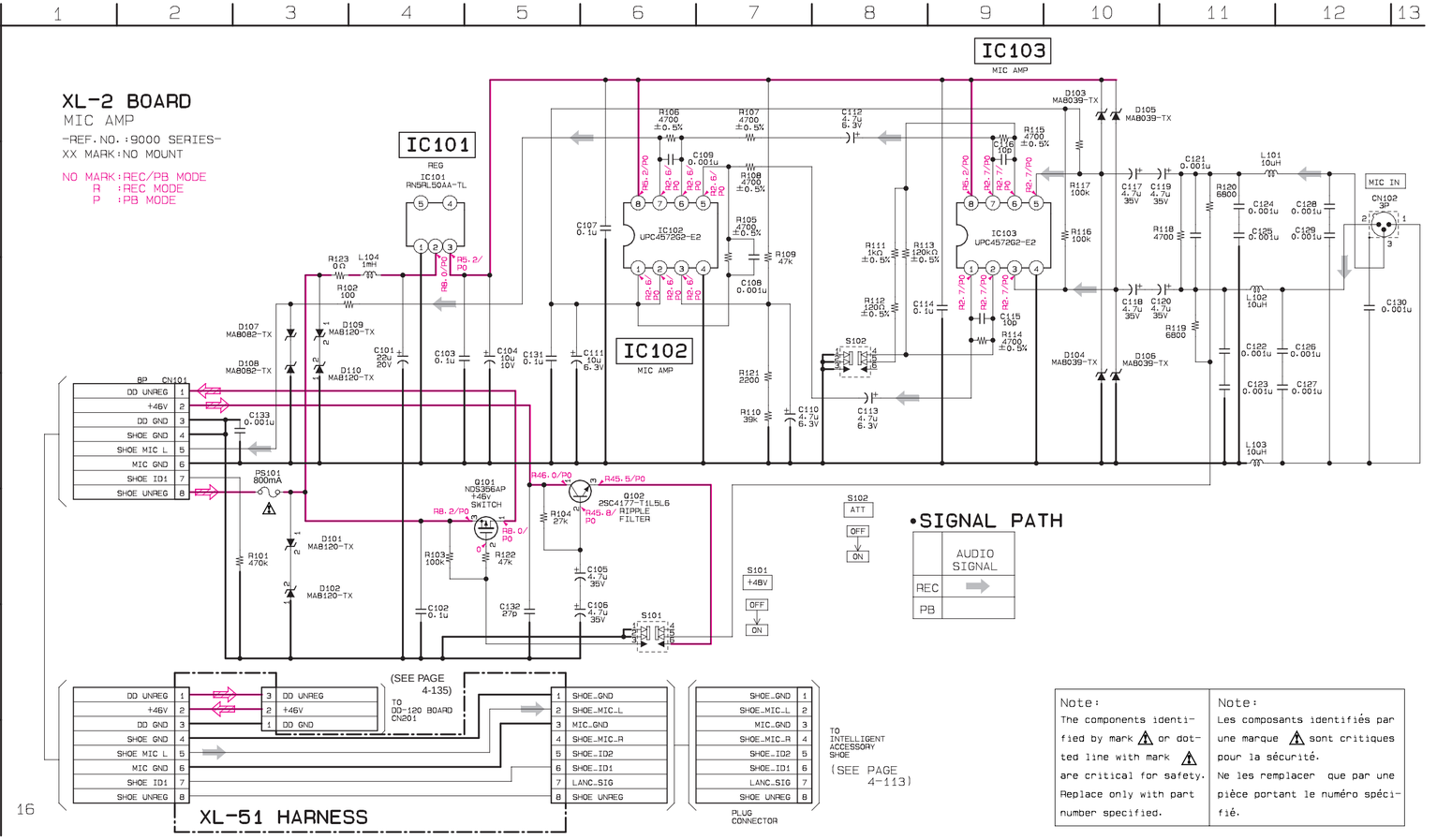
XL-2 BOARD

C100	E-2	D108	A-5		
C102	E-4	D109	A-3		
C103	D-2	D110	A-3		
C104	E-2				
C105	E-2	IC101	E-2		
C106	E-3	IC102	A-5		
C107	A-5	IC103	B-4		
C108	A-5				
C109	E-2	L101	E-3		
C110	B-5	L102	D-3		
C111	B-5	L103	E-3		
C112	E-4	L104	E-2		
C113	D-4				
C114	A-4	PS101	E-3		
C115	B-4				
C116	A-4	Q101	E-4		
C117	E-4	Q102	E-1		
C118	D-4				
C119	A-4	R101	A-3		
C120	B-4	R102	A-5		
C121	B-4	R103	E-4		
C122	D-3	R104	E-1		
C123	D-3	R105	A-5		
C124	D-3	R106	A-5		
C125	D-3	R107	E-4		
C126	D-3	R108	D-4		
C127	D-3	R109	B-5		
C128	E-3	R110	B-5		
C129	E-3	R111	B-4		
C130	D-3	R112	B-4		
C131	B-5	R113	B-4		
C132	E-2	R114	B-4		
C133	E-4	R115	A-4		
		R116	D-4		
CN101	A-4	R117	E-4		
CN102	A-2	R118	B-4		
		R119	B-3		
D101	E-4	R120	A-3		
D102	E-4	R121	B-5		
D103	E-4	R122	E-4		
D104	E-4	R123	E-3		
D105	D-4				
D106	D-4	S101	D-2		
D107	A-5	S102	D-4		



XL-2 BOARD
MIC AMP
-REF. NO. :9000 SERIES-
XX MARK:NO MOUNT

NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE



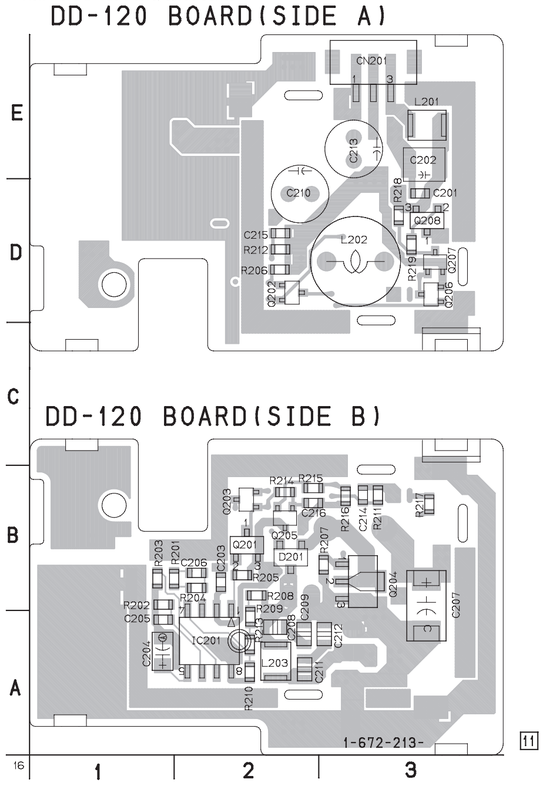
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

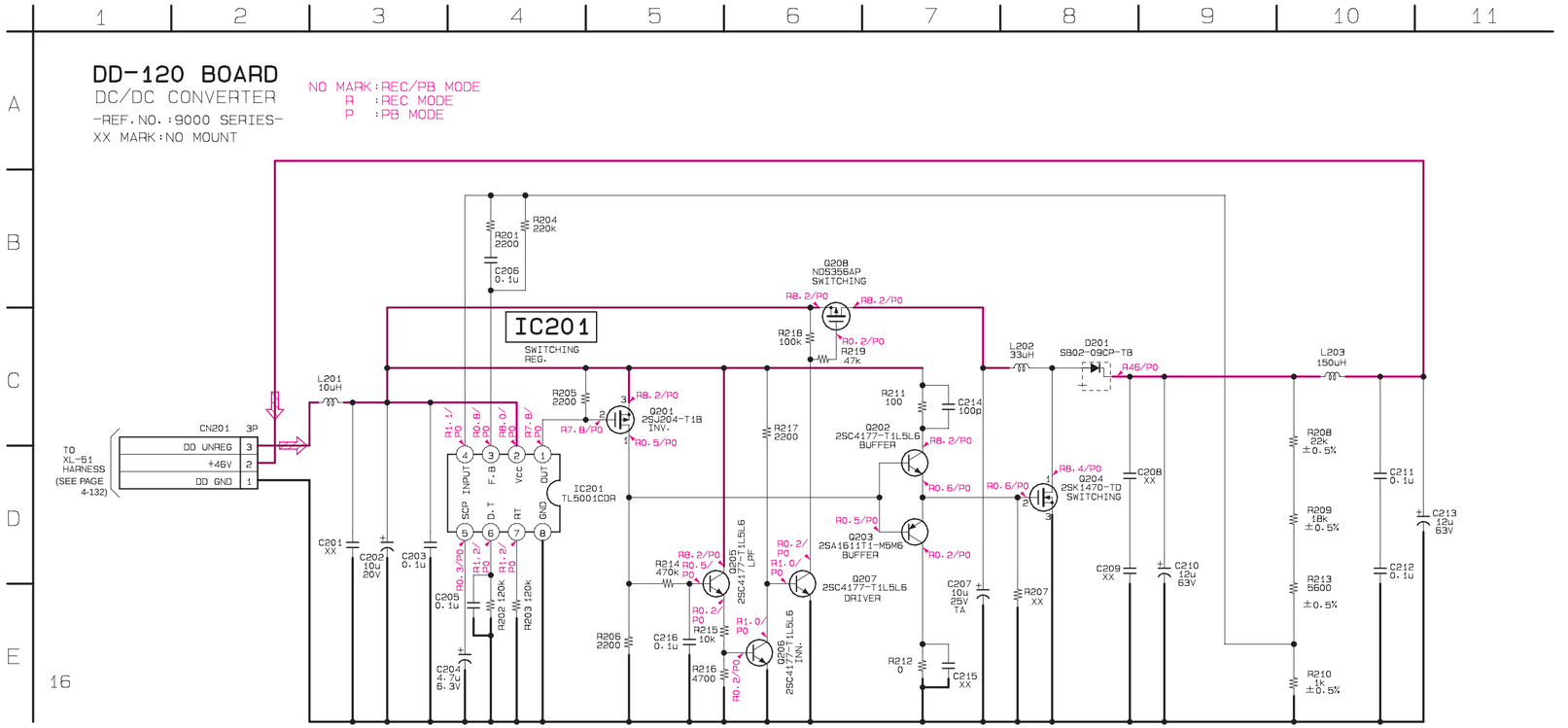
DD-120 BOARD

C201	D-3	Q202	D-2
C202	E-3	Q203	B-2
C203	B-2	Q204	B-3
C204	A-1	Q205	B-2
C205	A-1	Q206	D-3
C206	B-2	Q207	D-3
C207	B-3	Q208	D-3
C208	A-2		
C209	A-2	R201	B-2
C210	D-2	R202	B-1
C211	A-2	R203	B-1
C212	A-3	R204	B-2
C213	E-3	R205	B-2
C214	B-3	R206	D-2
C215	D-2	R207	B-3
C216	B-2	R208	B-2
		R209	A-2
CN201	E-3	R210	A-2
		R211	B-3
D201	B-2	R212	D-2
		R213	A-2
IC201	A-2	R214	B-2
		R215	B-2
L201	E-3	R216	B-3
L202	D-3	R217	B-3
L203	A-2	R218	D-3
		R219	D-3
Q201	B-2		

DD-120 (DC/DC CONVERTER) PRINTED WIRING BOARD

— Ref. No. DD-120 Board; 9,000 Series —

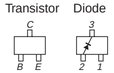




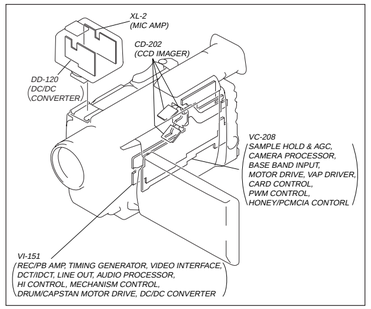
For printed wiring boards

- This board is four-layer print board. However, the patterns of layers two and three have not been included in the diagram.
- Chip parts

Transistor Diode



There are few cases that the part printed on this diagram isn't mounted in this model.


XL-2 (MIC AMP)
CD-202 (CCD IMAGER)
DD-120 (DC/DC CONVERTER)
VC-208 SAMPLE HOLD & AGC, CAMERA PROCESSOR, BASE BAND INPUT, MOTOR DRIVE, VAP DRIVER, CARD CONTROL, PWM CONTROL, HONEY/PCMCIA CONTORL
VI-151 REC/PB AMP, TIMING GENERATOR, VIDEO INTERFACE, DCT/IDCT, LINE OUT, AUDIO PROCESSOR, HI CONTROL, MECHANISM CONTROL, DRUM/CAPSTAN MOTOR DRIVE, DC/DC CONVERTER

DC/DC CONVERTER
DD-120

SECTION 5
ADJUSTMENTS

5-1. CAMERA SECTION ADJUSTMENT

NTSC model : DSR-PD100
PAL model : DSR-PD100P

1-1. PREPARATIONS BEFORE ADJUSTMENT (CAMERA SECTION)

1-1-1. List of Service Tools

- Oscilloscope
- Regulated power supply
- Vectorscope
- Color monitor
- Digital voltmeter

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0 ND filter 0.3	J-6080-808-A J-6080-818-A	White balance check White balance check
J-3	Pattern box PTB-450	J-6082-200-A	
J-4	Color chart for pattern box	J-6020-250-A	
J-5	Adjustment remote commander (RM-95 upgraded). (Note 1)	J-6082-053-B	
J-6	Siemens star chart	J-6080-875-A	For checking the flange back
J-7	Clear chart for pattern box	J-6080-621-A	
J-8	CPC-8 jig	J-6082-388-A	For adjusting the video section For adjusting the LCD system For adjusting the viewfinder
J-9	Extension cable (60P, 0.5 mm)	J-6082-431-A	For extension between the VC-208 board (CN761) and the CK-80 board (CN7208)
J-10	Extension cable (100P, 0.5 mm)	J-6082-432-A	For extension between the VC-208 board (CN900) and the VI-151 board (CN2901)
J-11	Extension cable (39P, 0.3 mm)	J-6082-433-A	For extension between the JK-163 board (CN7102) and the VI-151 board (CN2903)
J-12	Cleaning fluid	Y-2031-001-0	
J-13	Wiping cloth	7-741-900-53	
J-14	Super fine applicator (made by NIPPON APPLICATOR (P752D))	—	
J-15	Mirror (Small oval type)	J-6080-840-A	
J-16	Screwdriver for tape path	J-6082-026-A	Tape path for adjusting tape guide
J-17	Torque driver	J-9049-330-A	
J-18	TG1 adjustment jig	J-6082-420-A	FWD position adjustment
J-19	Mode selector conversion board (C)	J-6082-417-A	
J-20	Tracking tape (XH2-1A1)(NTSC/PAL)	8-967-999-03	
J-21	Mini DV torque cassette	J-6082-360-A	For FWD torque, REV torque and FWD back tension
J-22	Mode Selector Ⅱ	J-6082-282-A	For all operating
J-23	Mode Selector Ⅱ ROM	J-6082-314-D	Corresponds to C mechanism (Note 2)
J-24	Bending stick	J-6082-419-A	

Note 1: If the microprocessor IC in the adjustment remote commander is not the new microprocessor (UPD7503G-C56-12), the pages cannot be switched. In this case, replace with the new microprocessor (8-759-148-35).
Note 2: ROM for version upgrading to allow use of the mode selector II with the C mechanism.

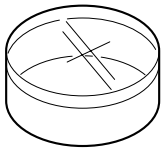
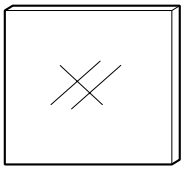
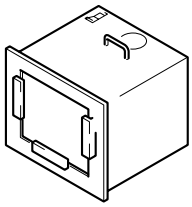
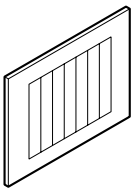
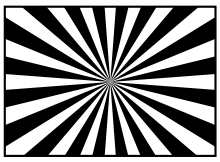
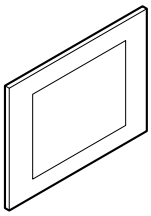
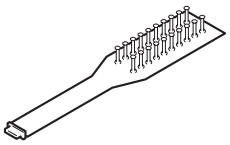
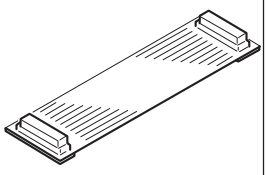
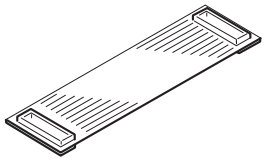
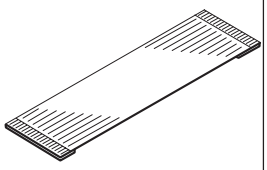
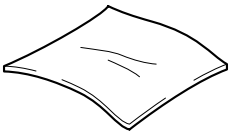
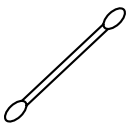
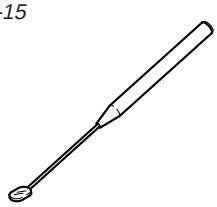
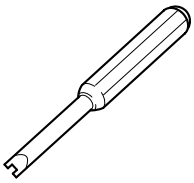
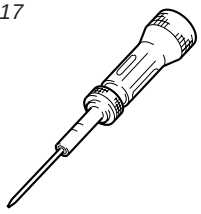
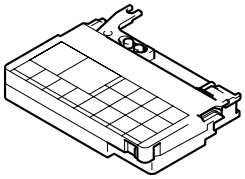
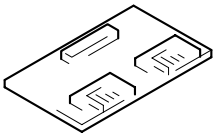
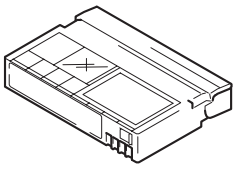
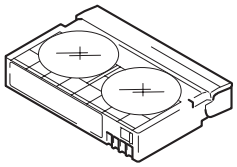
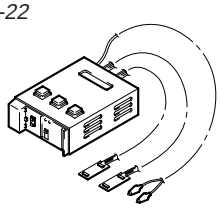
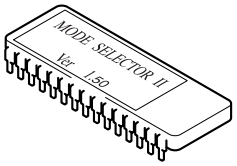
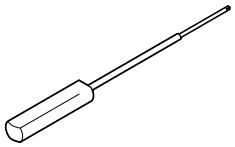
J-1 	J-2 	J-3 	J-4 	J-5
J-6 	J-7 	J-8 	J-9 	J-10 
J-11 	J-12	J-13 	J-14 	J-15 
J-16 	J-17 	J-18 	J-19 	J-20 
J-21 	J-22 	J-23 	J-24 	

Fig. 5-1-1

1-1-2. Preparations

Note 1: For details of how remove the cabinet and boards, refer to "2. DISASSEMBLY".

Note 2: When performing only the adjustments, the lens block and boards need not be disassembled.

1) Connect the equipment for adjustments according to Fig. 5-1-3.
2) The front panel block (MA-333 board, focus ring, focus switch, ND filter switch, microphone unit) must be assembled because the focus ring and ND filter switch are used for adjustments.
3) The viewfinder (VF-121 board, LB-55 board) and upper cabinet (LCD window, ED-48 board) are need not be connected. To remove them, disconnect the following connectors.
   1. VI-151 board CN2905 (20P, 0.5 mm)
   2. CK-80 board CN7207 (24P, 0.5 mm)
   3. CK-80 board CN7203 (5P, 0.5 mm)

Note 3: As removing the cabinet (R) (removing the VI-151 board CN2906) means removing the lithium 3V power supply (BT7200), data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. If the cabinet (R) has been removed, the self-diagnosis data, data on history of use (total drum rotation time etc.) will be lost. Before removing, note down the self-diagnosis data and the data on history use (data of page: 2, address: A2 to AA). (Refer to "SELF-DIAGNOSIS FUNCTION" for the self-diagnosis data, and to "5-4. Service Mode" for the data on the history use.)

Note 4: Setting the "Forced Camera Power ON" Mode
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjustment remote commander.
   The above procedure will enable the camera power to be turned on with the operation switch block (FK-4880) removed. After completing adjustments, be sure to exit the "Forced Camera Power ON Mode".

Note 5: Exiting the "Forced Camera Power ON" Mode
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
3) Select page: 0, address: 01, and set data: 00.

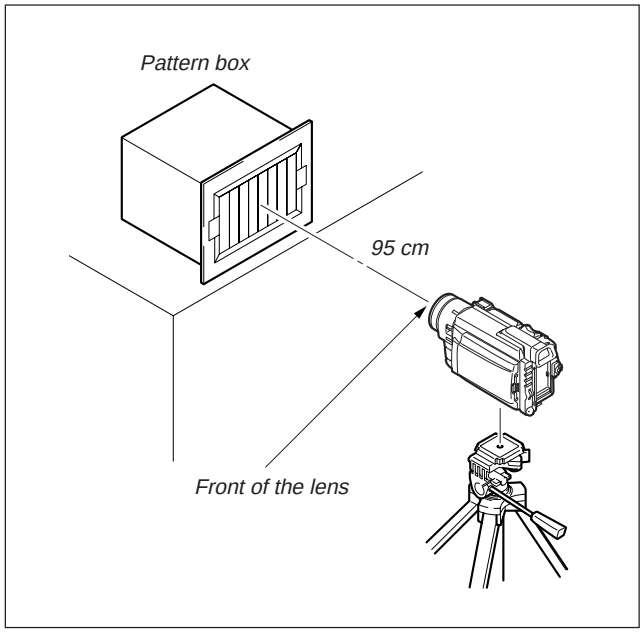


Fig. 5-1-2

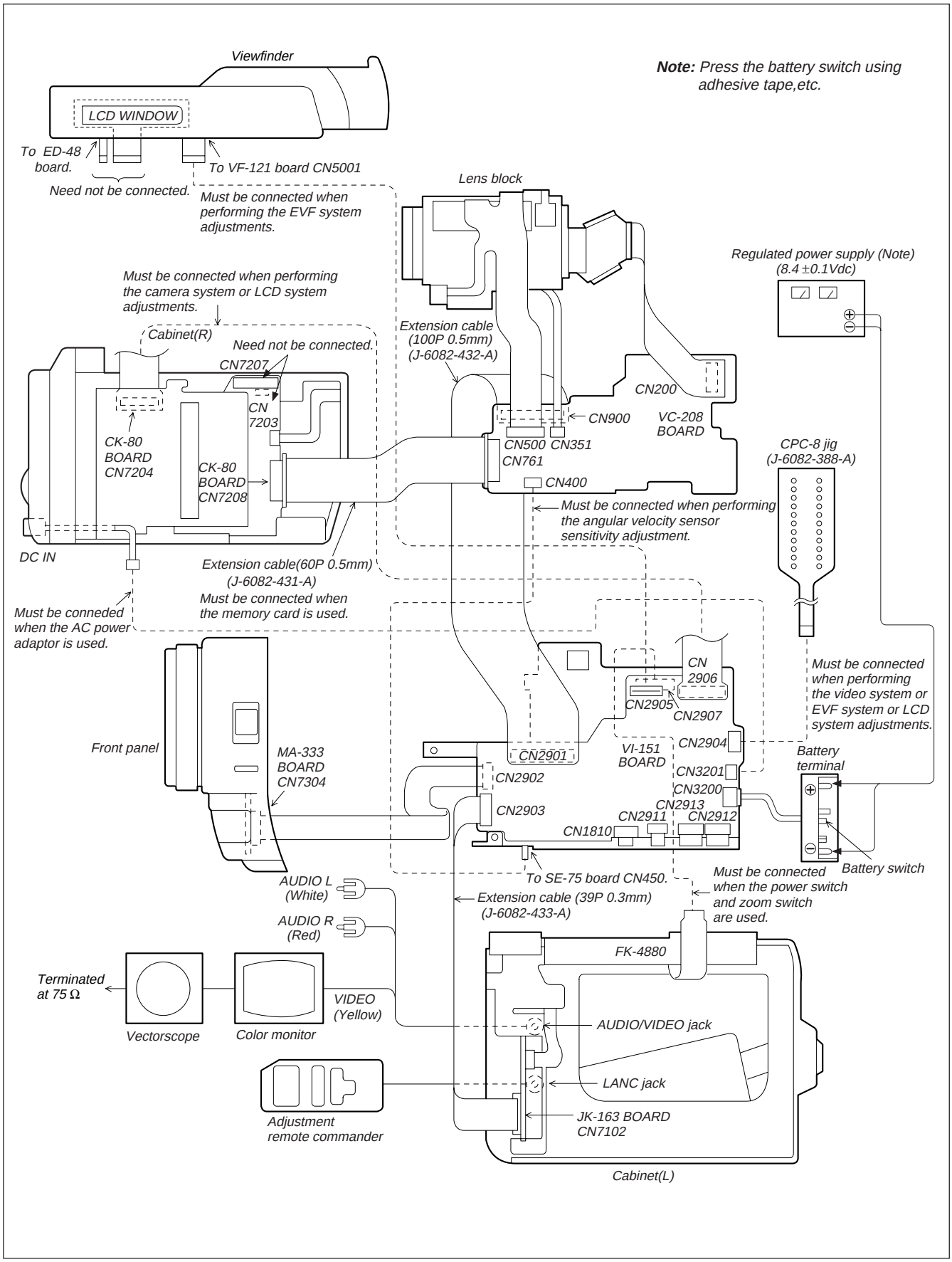

Viewfinder
LCD WINDOW
To ED-48 board.
Need not be connected.
To VF-121 board CN5001
Must be connected when performing the EVF system adjustments.
Note: Press the battery switch using adhesive tape,etc.
Lens block
Regulated power supply (Note) (8.4 ±0.1Vdc)
Must be connected when performing the camera system or LCD system adjustments.
Cabinet(R)
Need not be connected.
CN7207
CN 7203
CK-80 BOARD CN7204
CK-80 BOARD CN7208
Extension cable (100P 0.5mm) (J-6082-432-A)
CN200
CN900
VC-208 BOARD
CN500 CN351
CN761
CN400
CPC-8 jig (J-6082-388-A)
Must be connected when performing the angular velocity sensor sensitivity adjustment.
DC IN
Extension cable(60P 0.5mm) (J-6082-431-A)
Must be connected when the memory card is used.
Must be conneded when the AC power adaptor is used.
CN 2906
CN2905
CN2907
Must be connected when performing the video system or EVF system or LCD system adjustments.
Front panel
MA-333 BOARD CN7304
CN2901
VI-151 BOARD
CN2904
Battery terminal
CN2902
CN3201
CN3200
CN2903
CN2913
CN2911
CN2912
CN1810
To SE-75 board CN450.
Battery switch
Must be connected when the power switch and zoom switch are used.
AUDIO L (White)
AUDIO R (Red)
Extension cable (39P 0.3mm) (J-6082-433-A)
FK-4880
Terminated at 75 Ω
VIDEO (Yellow)
AUDIO/VIDEO jack
Vectorscope
Color monitor
LANC jack
Adjustment remote commander
JK-163 BOARD CN7102
Cabinet(L)

Fig. 5-1-3

1-1-3. Precaution

1. Setting the Switch

Unless otherwise specified, set the switches as follows and perform adjustments without loading cassette.

1. POWER switch (FK-4880 block) ..... CAMERA
2. DIGITAL ZOOM (Menu display) ..... OFF
3. STEADY SHOT (Menu display) ..... OFF
4. DISPLAY (Menu display) ..... V-OUT/LCD
5. DISPLAY (CK-80 board) ..... ON
6. AUTO LOCK (CK-80 board) ..... AUTO
7. ND FILTER ..... OFF
8. FOCUS switch (FP-21) ..... MANUAL
9. BACK LIGHT (ED-48 board) ..... OFF
10. PICTURE EFFECT (CK-80 board) ..... OFF
11. DIGITAL EFFECT (CK-80 board) ..... OFF
12. 16 : 9 WIDE (Menu display) ..... OFF
13. AUTO SHUTTER (Menu display) ..... OFF
14. PROG.SCAN (Menu display) ..... OFF

2. Order of Adjustments

Basically carry out adjustments in the order given.

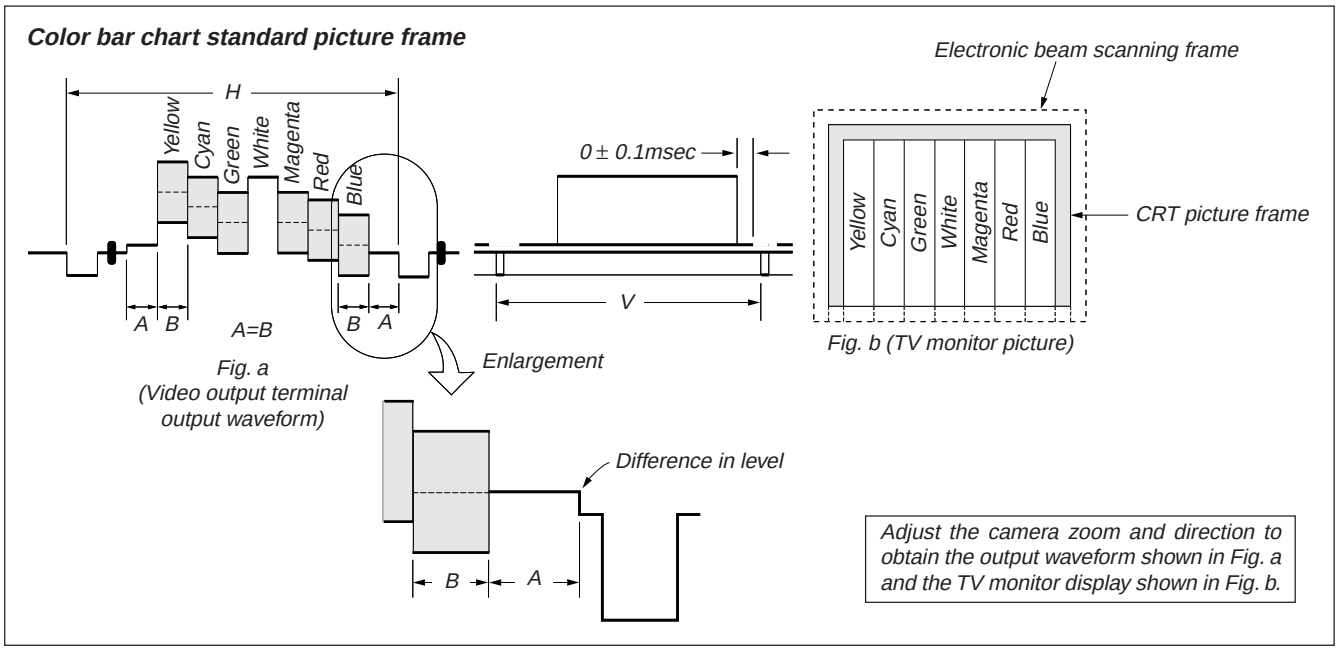


Fig. 5-1-4

3. Subjects

1) Color bar chart (Standard picture frame).
   When performing adjustments using the color bar chart, adjust the picture frame as shown in Fig. 5-1-4. (Standard picture frame)
2) Clear chart (Standard picture frame)
   Remove the color bar chart from the pattern box and insert a clear chart in its place. (Do not perform zoom operations during this time.)
3) Flange back adjustment chart
   Make the chart shown in Fig. 5-1-5 using A0 size (1189 mm × 841 mm) black and white vellum paper.

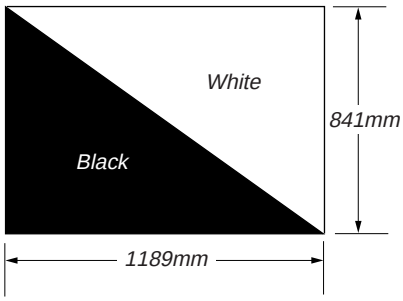


Fig. 5-1-5

Note: Use matte vellum paper bigger than A0, and make sure the edges of the black and white paper joined together are not rough.

1-2. INITIALIZATION OF F, E PAGE DATA

1. Initializing the F, E Page Data

Note: If the F, E page data is initialized, the following adjustments must be performed again.
1) Modification of F, E Page Data
2) Camera System Adjustments

Adjusting page	F
Adjusting Address	10 to FF
Adjusting page	E
Adjusting Address	00 to 9B

Initializing Method:

1) Set the power switch to the CAMERA position.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 6, address: 01, and set data: 2D (NTSC) or data: 2F (PAL) , and press the PAUSE button of the adjustment remote commander.
4) Select page: 6, address: 03, set data: 01, and press the PAUSE button of the adjustment remote commander.
5) Select page: 6, address: 02, and check that the data is "01".
6) Perform "Modification of F, E Page Data".

2. Modification of F, E Page Data

If the F, E PAGE data has been initialized, change the data of the "Fixed data-2" address shown in the following tables by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note: If copy the data built in the different model, the camcorder may not operate.
3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification of F, E Page data

1) Select page: 2, address: 00, and set data: 29.
2) Select page: 2, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.
3) Perform the "Camera System Adjustments".

3. F Page Table

Note: Fixed data-1: Initialized data. (Refer to "1. Initializing the F, E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of F, E Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 0F			
10			Fixed data-1
11			(Initialized data)
12			
13			
14			
15			
16			
17			
18			
19			Fixed data-1
1A			(Initialized data)
1B			
1C	80	80	27MHz origin osc. adj.
1D			Fixed data-1
1E	60	60	IRIS & ND HALL adj.
1F	40	60	
20	00	00	AWB standard data input
21	28	28	
22	00	00	
23	50	50	
24	8E	2C	Flange back adj.
25	1A	17	
26	80	78	
27	24	1D	
28	65	FB	
29	11	12	
2A			Fixed data-1
2B			
2C	64	64	Max gain adj.
2D			Fixed data-1
2E			(Initialized data)
2F			
30			
31			
32			
33			
34	88	90	Auto white balance adj.
35	6C	8F	
36	D6	D6	Flange back adj.
37	E6	E6	
38	15	23	
39	45	00	
3A	3F	19	
3B	3F	00	
3C	16	27	
3D	A8	A8	
3E	80	80	LV standard data input
3F	76	76	
40			Fixed data-1
41	50	50	Angular velocity sensor sensitivity
42	50	50	adj.
43			Fixed data-1
44	D5	D5	Color reproduction adj. (1)
45	EC	EC	(ND filter OFF)
46	20	20	
47	20	20	
48	60	60	IRIS & ND HALL adj.
49	40	60	
4A	00	00	WB ND filter compensation adj.
4B	00	00	
4C	89	89	IRIS & ND HALL adj.
4D			Fixed data-1
4E			(Initialized data)
4F			
50			Fixed data-2

Address	Initial value		Remark
	NTSC	PAL	
51			Fixed data-2
52			Fixed data-1
53			(Initialized data)
54			
55			
56			
57			Fixed data-2
58			Fixed data-1
59			(Initialized data)
5A			
5B			
5C			
5D			
5E			Fixed data-2
5F			Fixed data-1
60			Fixed data-2
61			Fixed data-1
62			
63			Fixed data-2
64			(Modified data, copy the data built in
65			the same model.)
66			Fixed data-1
67			(Initialized data)
68			
69			
6A			
6B			Fixed data-2
6C			
6D			
6E			Fixed data-1
6F			
70	89	89	IRIS & ND HALL adj.
71			Fixed data-1
72			(Initialized data)
73			
74			Fixed data-2
75			Fixed data-1
76			(Initialized data)
77			
78			
79			
7A			
7B			
7C			
7D			
7E			
7F			
80			
81			
82			
83			
84			
85			
86			
87			
88			

Address	Initial value		Remark
	NTSC	PAL	
89			Fixed data-1
8A			(Initialized data)
8B			
8C			
8D			
8E			
8F			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
9A			Fixed data-2
9B			Fixed data-1
9C			(Initialized data)
9D			
9E			
9F			
A0			
A1			
A2			
A3			
A4			
A5			
A6			Fixed data-2
A7			Fixed data-1
A8			(Initialized data)
A9			
AA			
AB			
AC			
AD			
AE			
AF			
B0			
B1			
B2			
B3			
B4			
B5			
B6			
B7			
B8			
B9			
BA			
BB			
BC			
BD			
BE			
BF			
C0			

Address	Initial value		Remark
	NTSC	PAL	
C1			Fixed data-1 (Initialized data)
C2			
C3			
C4			
C5			
C6			Fixed data-2 (Modified data, copy the data built in the same model.)
C7			
C8			
C9			
CA			Fixed data-1
CB			
CC			Fixed data-2 (Modified data, copy the data built in the same model.)
CD			
CE			
CF			
D0			
D1			
D2			
D3			Fixed data-1 (Initialized data)
D4			
D5			
D6			
D7			
D8			
D9			
DA			
DB			
DC			
DD			
DE			
DF			
E0			
E1			
E2			
E3			
E4			
E5			
E6			
E7			
E8			
E9			
EA			
EB			
EC			
ED			
EE			
EF			
F0			
F1			
F2			
F3			
F4			
F5			
F6			
F7			
F8			

Address	Initial value		Remark
	NTSC	PAL	
F9			Fixed data-2
FA			Fixed data-1
FB			
FC			Fixed data-2
FD			Fixed data-1
FE			
FF			

Table. 5-1-1

4. E Page Table

Note: Fixed data-1: Initialized data. (Refer to "1. Initializing the F, E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of F, E Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00			Fixed data-2
01			Fixed data-1
02			(Initialized data)
03			
04			
05			
06			
07			
08			
09			Fixed data-2
0A			Fixed data-1
0B			Fixed data-2
0C			Fixed data-1
0D			(Initialized data)
0E			
0F			
10			
11			Fixed data-2
12			Fixed data-1
13			(Initialized data)
14			
15			
16			Fixed data-2
17			
18			Fixed data-1
19			(Initialized data)
1A			
1B			
1C			
1D			
1E			
1F			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
2A	40	40	Pre white balance data input
2B	40	40	
2C			Fixed data-1
2D	80	80	OFFSET adj.
2E	80	80	
2F	80	80	
30			Fixed data-1
31			(Initialized data)
32			
33			
34			Fixed data-1
35			(Initialized data)
36			
37			
38			
39			
3A			
3B			
3C			
3D			
3E			
3F			
40			
41			
42			
43			
44			
45			
46			
47			
48	80	80	PSD sensor gain adj.
49	80	80	
4A			Fixed data-1
4B			(Initialized data)
4C			
4D			Fixed data-2
4E			Fixed data-1
4F			(Initialized data)
50			
51			
52			Fixed data-2
53			
54			
55			
56			Fixed data-1
57			Fixed data-2
58			
59			
5A			
5B			
5C			Fixed data-1
5D			Fixed data-2
5E			Fixed data-1
5F			(Initialized data)
60			
61			
62	D5	D5	Color reproduction adj. (2)
63	EC	EC	(ND filter ON)
64	20	20	
65	20	20	
66			Fixed data-1
67			
68			
69			Fixed data-2
6A			Fixed data-1
6B			(Initialized data)

Address	Initial value		Remark
	NTSC	PAL	
6C			Fixed data-1
6D			(Initialized data)
6E			
6F			
70			
71			
72			
73			
74			
75			
76			
77			
78			
79			
7A			
7B			
7C			
7D			
7E			
7F			
80			
81			
82			Fixed data-2
83			
84			Fixed data-1
85			(Initialized data)
86			
87			
88			
89			
8A			Fixed data-2
8B			Fixed data-1
8C			Fixed data-2
8D			
8E			Fixed data-1
8F			(Initialized data)
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
9A			
9B			
9C to FF			

Table. 5-1-2

1-3. CAMERA SYSTEM ADJUSTMENTS

Before perform the camera system adjustments, check that the specified value of "Composite Output Y Level Adjustment" and "Composite Output Chroma Level Adjustment" of "Base Band Block Adjustment" of "VIDEO SYSTEM ADJUSTMENT" are satisfied.

1. 27 MHz Origin Oscillation Adjustment (VC-208 Board)

Set the frequency of the clock for synchronization.
If deviated, the synchronization will be disrupted and the color will become inconsistent.

Subject	Not required
Measurement Point	Pin ㊼ of IC204 or Pin ㉒ of IC207 or Pin ㊼ of IC300
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	1C
Specified Value	f=13500000 ± 68 Hz

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: F, address: 1C, change the data and set the clock frequency (f) to the specified value.
3) Press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 00.

2. IRIS & ND HALL Auto Adjustment

For detecting the position of the lens iris and ND filter, adjust the hall AMP gain and offset.

Subject	Not required
Measurement Point	DDS display data of LCD or TV
Measuring Instrument	monitor (Note 5)
Adjustment Page	F
Adjustment Address	1E, 1F, 48, 49, 4C, 70
Specified Value	IRIS display data : 88 to 8A during IRIS OPEN (Note 1) 14 to 18 during IRIS CLOSE (Note 2) ND display data : 14 to 18 during ND filter OFF (Note 3) 88 to 8A during ND filter ON (Note 4)

Note 1: Select page: 6, address: 01, set data: 01, and press the PAUSE button of the adjustment remote commander.
Note 2: Select page: 6, address: 01, set data: 03, and press the PAUSE button of the adjustment remote commander.
Note 3: Select page: 6, address: 1C, and set data: 02.
Note 4: Select page: 6, address: 1C, and set data: 03.
Note 5: DDS display data of LCD or TV monitor.

CA 00 0000
CA 00 YY XX
YY: IRIS display data
XX: ND display data

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 6, address: 94, and set data: 89.
3) Select page: 6, address: 95, and set data: 16.
4) Select page: 6, address: 01, set data: 6D, and press the PAUSE button of the adjustment remote commander. (The HALL adjustment is performed and the adjustment data is stored in page: F, address: 1E, 1F, 48, 49, 4C and 70.)
5) Select page: 6, address: 02, and check that the data is "01".

Processing after Completing Adjustments

1) Select page: 6, address: 94, and set data: 00.
2) Select page: 6, address: 95, and set data: 00.
3) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 00.

Checking method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 11, set data: 02, and press the PAUSE button of the adjustment remote commander.
3) Select page: 6, address: 04, and set data: 03.
4) Select page: 6, address: 01, set data: 01, and press the PAUSE button.
5) Check the IRIS display data lies within the "88" to "8A" range.
6) Select page: 6, address: 01, set data: 03, and press the PAUSE button.
7) Check the IRIS display data lies within the "14" to "18" range.

Processing after Completing Check

1) Select page: D, address: 11, and set data: 00, and press the PAUSE button.
2) Select page: 0, address: 01, and set data: 00.
3) Select page: 6, address: 01, and set data: 00, and press the PAUSE button.
4) Select page: 6, address: 1C, and set data: 00.

VC-208 BOARD (SIDE A)

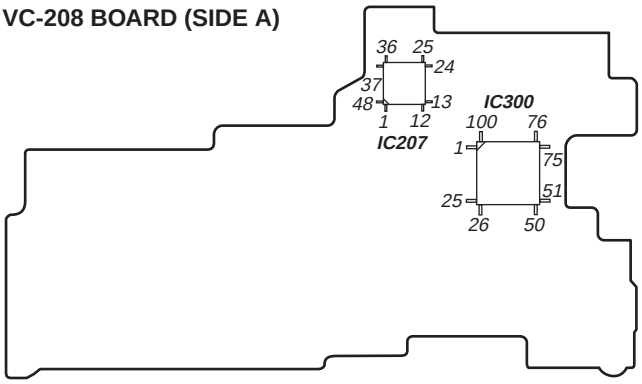


Fig. 5-1-6

VC-208 BOARD (SIDE B)

Fig. 5-1-7

3. Offset Adjustment

Adjust so that the AGC OUT potential lies within the specified value of the digital clamp.

Subject	Not required
Measurement Point	DDS display data of LCD or TV monitor (Note)
Measuring Instrument	
Adjustment Page	E
Adjustment Address	2D, 2E, 2F
Specified Value	50 to B0

Note: DDS display data of LCD or TV monitor.
CA 00 0000
CA 00 00XX
└── Object data

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 11, set data: 02, and press the PAUSE button of the adjustment remote commander.
3) Select page: 6, address: 01, set data: 07 and press the PAUSE button.
4) Select page: 6, address: 04, and set data: 1F.
5) Check the DDS display data (Rch OPB) satisfies the specified value. If not perform the Rch offset adjustment.
6) Select page: 6, address: 04, and set data: 20.
7) Check the DDS display data (Gch OPB) satisfies the specified value. If not perform the Gch offset adjustment.
8) Select page: 6, address: 04, and set data: 21.
9) Check the DDS display data (Bch OPB) satisfies the specified value. If not perform the Bch offset adjustment.
10) Select page: 6, address: 01, and set data: 05 and press the PAUSE button.
11) Select page: 6, address: 04, and set data: 1F.
12) Check the DDS display data (Rch OPB) satisfies the specified value. If not perform the Rch offset adjustment.
13) Select page: 6, address: 04, and set data: 20.
14) Check the DDS display data (Gch OPB) satisfies the specified value. If not perform the Gch offset adjustment.
15) Select page: 6, address: 04, and set data: 21.
16) Check the DDS display data (Bch OPB) satisfies the specified value. If not perform the Gch offset adjustment.

• Rch offset adjustment

1) Select page: E, address: 0C, set data: 02, and press the PAUSE button.
2) Select page: E, address: 2D, change the data and adjust the DDS display data to the specified value.

• Gch offset adjustment

1) Select page: E, address: 0C, set data: 02, and press the PAUSE button.
2) Select page: E, address: 2E, change the data and adjust the DDS display data to the specified value.

• Bch offset adjustment

1) Select page: E, address: 0C, set data: 02, and press the PAUSE button.
2) Select page: E, address: 2F, change the data and adjust the DDS display data to the specified value.

Processing after Completing Adjustments

1) Select page: D, address: 11, set data: 00, and press the PAUSE button.
2) Select page: E, address: 0C, set data: 00, and press the PAUSE button.
3) Select page: 0, address: 01, and set data: 00.
4) Select page: 6, address: 01, and set data: 00, and press the PAUSE button.
5) Select page: 6, address: 04, and set data: 00.

4. Flange Back Adjustment

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

4-1. Flange Back Adjustment (1)

Subject	Flange back adjustment chart (2.0 m from the front of the lens) (Luminance: 230 ± 30 lux)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	24 to 29, 36 to 3D

Adjusting method:

1) Check that at both the zoom lens TELE end and WIDE end, the center of the chart for the flange back adjustment and center of the exposure screen coincide.
2) Select page: 0, address: 01, and set data: 01.
3) Check that the data of page: F, address: 24 to 29, 36 to 3D is the initial value (See table below).

Address	Data		Address	Data	
	NTSC	PAL		NTSC	PAL
24	8E	2C	37	E6	E6
25	1A	17	38	15	23
26	80	78	39	45	00
27	24	1D	3A	3F	19
28	65	FB	3B	3F	00
29	11	12	3C	16	27
36	D6	D6	3D	A8	A8

4) Select page: 6, address: 02, and check that the data is “00”.
5) Select page: 6, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
6) Select page: 6, address: 01, set data: 15, and press the PAUSE button of the adjustment remote commander.
   (The adjustment data will be automatically input to page: F, addresses: 24 to 29, 36 to 3D.)
7) Select page: 6, address: 02, and check that the data is “01”.

Processing after Completing Adjustments

1) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Perform “Flange Adjustment (2)”.

4-2. Flange Back Adjustment (2)

Perform this adjustment after performing “Flange Back Adjustment (1)”.

Subject	Subject more than 500 m away (Subjects with clear contrast such as buildings, etc.)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	24 to 29, 36 to 3D

Adjusting method:

1) Set the zoom lens to the TELE end and expose a subject that is more than 500 m away (subject with clear contrast such as building, etc.). (Nearby subjects less than 500 m away should not be in the screen.)
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 6, address: 02, and check that the data is “00”.
4) Select page: 6, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
5) Place a ND filter on the lens so that the optimum image is obtain.
6) Select page: 6, address: 01, set data: 29, and press the PAUSE button of the adjustment remote commander.
   (The adjustment data will be automatically input to page: F, addresses: 24 to 29, 36 to 3D.)
7) Select page: 6, address: 02, and check that the data is “01”.

Processing after Completing Adjustments

1) Select page: 0, address: 01, and set data: 00.
2) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
3) Perform “Flange Back Check”.

5. Flange Back Check

Subject	Siemens star (2.0 m from the front of the lens) (Luminance: 300 ± 50 lux)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Specified Value	Focused at the TELE end and WIDE end.

Switch setting:

1) DIGITAL ZOOM (Menu display) ..... OFF

Checking method:

1) Place the Siemens star 2.0 m from the front of the lens.
3) Shoot the Siemens star with the zoom TELE end.
4) Turn on the auto focus.
5) Check that the lens is focused (Note).
6) Turn off the auto focus.
7) While observe the TV monitor, change the zoom to the WIDE end and check that the lens is focused.

Note : When the auto focus is ON, the lens can be checked if it is focused or not by observing the data on the page 1 of the adjustment remote commander.
1) Select page: 6, address: 04, and set data: 0F.
2) Page 1 shows the state of the focus.

1 : 00 : XX
- Odd: Focused
- Even: Unfocused

Processing after Completing Adjustments

1) Select page: 6, address: 04, and set data: 00.

6. Picture Frame Setting

Subject	Color bar chart standard picture frame (95 cm from the front of the lens)
Measurement Point	Video output terminal
Measuring Instrument	Oscilloscope and TV monitor
Specified Value	A=B, C=D, t= 0 ± 0.1 msec

Setting method:

1) Adjust the zoom and the camera direction, and set to the specified position.
2) Mark the position of the picture frame on the monitor display, and adjust the picture frame to this position in following adjustments using “Color bar chart standard picture frame”.

Check on the oscilloscope

1. Horizontal period

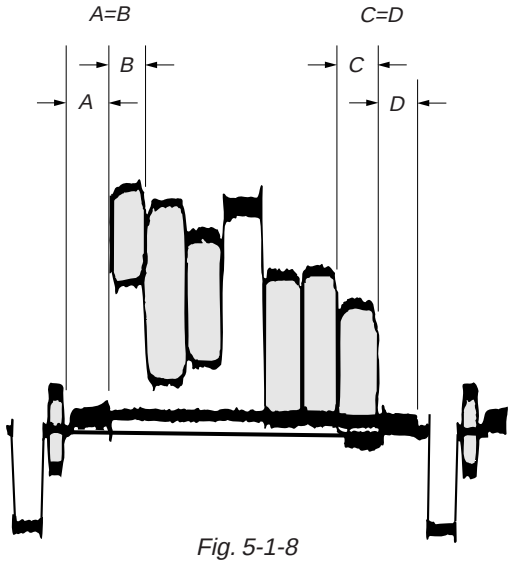


Fig. 5-1-8

2. Vertical period

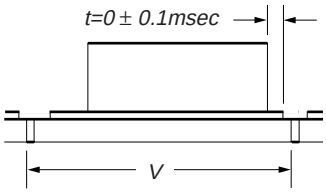


Fig. 5-1-9

Color on the TV monitor

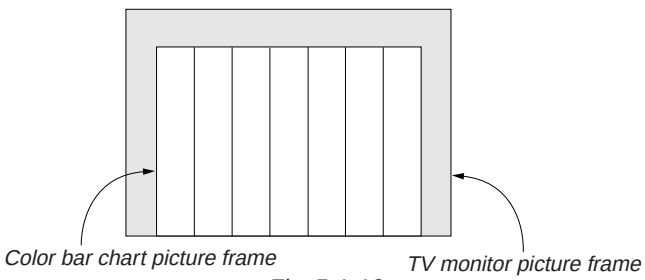


Fig. 5-1-10

7. Pre White Balance Data Input

At 3200 k, input the pre white balance standard data.

Subject	Clear chart (Color bar standard picture frame)
Adjustment Page	E
Adjustment Address	2A, 2B

Switch setting:

1) ND filter ..... OFF

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 6, address: 1C, and set data: 02.
3) Select page: F, address: 20, and set data: 00, and press the PAUSE button of the adjustment remote commander.
4) Select page: F, address: 21, set data: 28, and press the PAUSE button.
5) Select page: F, address: 22, set data: 00, and press the PAUSE button.
6) Select page: F, address: 23, set data: 50, and press the PAUSE button.
7) Select page: 6, address: 01, set data: 7F, and press the PAUSE button.
8) Select page: 6, address: 01, and set data: 7D, press the PAUSE button.
   (When the standard data is take in, the data will be automatically input to page: E, address: 2A and 2B.)
9) Select page: 6, address: 02, and check that the data is "01".

Processing after Completing Adjustments

1) Select page: 6, address: 01, and set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 6, address: 1C, and set data: 00.
3) Select page: 0, address: 01, and set data: 00.
4) Perform "Auto White Balance Standard Data Input".

8. Auto White Balance Standard Data Input

At 3200 K, input the white balance standard data.

Subject	Clear chart (Color bar standard picture frame)
Adjustment Page	F
Adjustment Address	20 to 23

Note 1: Perform "Pre White Balance Data Input" before this adjustment.
Note 2: Check that the data of page: 6, address: 02 is 00. If not, turn the power of the unit OFF/ON.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 6, address: 01, and set data: 11, and press the PAUSE button of the adjustment remote commander.
3) Select page: 6, address: 01, and set data: 0B, and press the PAUSE button.
   (When the standard data is take in, the data will be automatically input to page: F, address: 20 to 23.)
4) Select page: 6, address: 02, and check that the data is "01".

Processing after Completing Adjustments

1) Select page: 6, address: 01, and set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 0, address: 01, and set data: 00.

9. MAX GAIN Adjustment

Setting the minimum illumination.
If it is not consistent, the image level required for taking subjects in low illuminance will not be produced (dark).

Subject	Clear chart (Color bar standard picture frame) (95 cm from the front of the lens)
Adjustment Page	F
Adjustment Address	2C

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 6, address: 96, and set data: 00.
3) Select page: 6, address: 97, and set data: 2C (NTSC) or data: 21 (PAL).
4) Select page: 6, address: 01, set data: 6F and press the PAUSE button of the adjustment remote commander.
   (When the adjustment data is take in, the data will be automatically input to page: F, address: 2C.)
5) Select page: 6, address: 02, and check that the data is changed to "01".

Processing after Completing Adjustments

1) Select page: 6, address: 96, and set data: 00.
2) Select page: 6, address: 97, and set data: 00.
3) Select page: 6, address: 01, and set data: 00, and press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 00.

10. LV Standard Data Input

Adjust the normal coefficient of the light value.

Subject	Clear chart (Color bar standard picture frame)
Adjustment Page	F
Adjustment Address	3E, 3F

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 6, address: 01, and set data: 0D, and press the PAUSE button of the adjustment remote commander.
   (When the adjustment data is take in, the data will be automatically input to page: F, address: 3E and 3F.)

Processing after Completing Adjustments

1) Select page: 6, address: 01, and set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 0, address: 01, and set data: 00.

11. White Balance ND Filter Compensation Adjustment

Compensate the white balance deviation when ND filter is ON.

Subject	Clear chart (Color bar standard picture frame)
Adjustment Page	F
Adjustment Address	4A, 4B

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 6, address: 1C, and set data: 03.
3) Wait for 2 seconds.
4) Select page: 6, address: 01, and set data: 11, and press the PAUSE button of the adjustment remote commander.
5) Select page: 6, address: 01, and set data: 09, and press the PAUSE button.
   (When the adjustment data is take in, the data will be automatically input to page: F, address: 4A and 4B.)
6) Select page: 6, address: 02, and check that the data is changed to "01".

Processing after Completing Adjustments

1) Select page: 6, address: 01, and set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 6, address: 1C, and set data: 00.
3) Select page: 0, address: 01, and set data: 00.

12. Auto White Balance Adjustment

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color bar standard picture frame)
Filter	Filter C14 for color temperature correction
Adjustment Page	F
Adjustment Address	34, 35

Adjusting method:

1) Place the C14 filter for color temperature correction on the lens.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 6, address: 01, set data: 83, and press the PAUSE button of the adjustment remote commander.
4) Select page: 6, address: 01, set data: 81, and press the PAUSE button.
   (When the adjustment data is take in, the data will be automatically input to page: F, address: 34 and 35.)
5) Select page: 6, address: 02, and check that the data is changed to "01".

Processing after Completing Adjustments

1) Select page: 6, address: 01, and set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 0, address: 01, and set data: 00.

13. Color Reproduction Adjustment (ND Filter OFF)

When the ND filter is off, adjust the color difference matrix coefficient so that proper color reproduction is produced.

Subject	Color bar chart standard picture frame
Measurement Point	Video output terminal
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	44, 45, 46, 47
Specified Value	All color luminance points should settle within each color reproduction frame.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: F, address: 5E, set data: 1C, and press the PAUSE button of the adjustment remote commander.
3) Select page: 6, address: 01, set data: 61, and press the PAUSE button of the adjustment remote commander.
4) Adjust the GAIN and PHASE of the vectorscope, and adjust the burst luminance point to the burst position of the color reproduction frame.
5) Change the data of page: F, address: 44, 45, 46 and 47, and settle each color luminance point in each color reproduction frame.

Note : Be sure to press the PAUSE button of the adjustment remote commander before changing the addresses. If not, the new data will not be written to the memory.

Processing after Completing Adjustments

1) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: F, address: 5E, set data: 25, and press the PAUSE button.
3) Select page: 0, address: 01, and set data: 00.

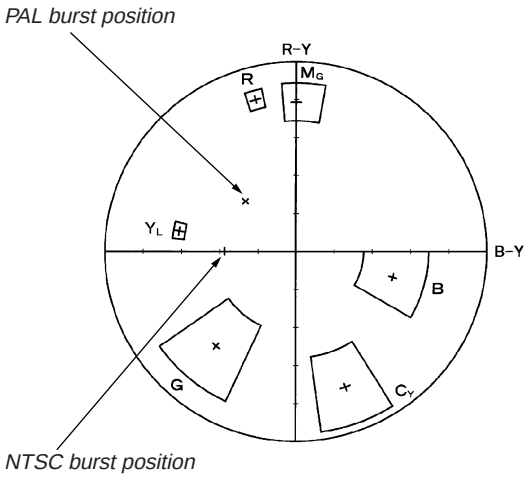


Fig. 5-1-11

14. Color Reproduction Adjustment (ND Filter ON)

When the ND filter is on, adjust the color difference matrix coefficient so that proper color reproduction is produced.

Subject	Color bar chart standard picture frame
Measurement Point	Video output terminal
Measuring Instrument	Vectorscope
Adjustment Page	E
Adjustment Address	62, 63, 64, 65
Specified Value	All color luminance points should settle within each color reproduction frame.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: F, address: 5E, set data: 1C, and press the PAUSE button of the adjustment remote commander.
3) Select page: 6, address: 1C, set data: 03.
4) Wait for 2 seconds.
5) Select page: 6, address: 01, set data: 85, and press the PAUSE button of the adjustment remote commander.
6) Adjust the GAIN and PHASE of the vectorscope, and adjust the burst luminance point to the burst position of the color reproduction frame.
7) Change the data of page: E, address: 62, 63, 64 and 65, and settle each color luminance point in each color reproduction frame.

Note : Be sure to press the PAUSE button of the adjustment remote commander before changing the addresses. If not, the new data will not be written to the memory.

Processing after Completing Adjustments

1) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 6, address: 1C, set data: 00.
3) Select page: F, address: 5E, set data: 25, and press the PAUSE button.
4) Select page: 0, address: 01, and set data: 00.

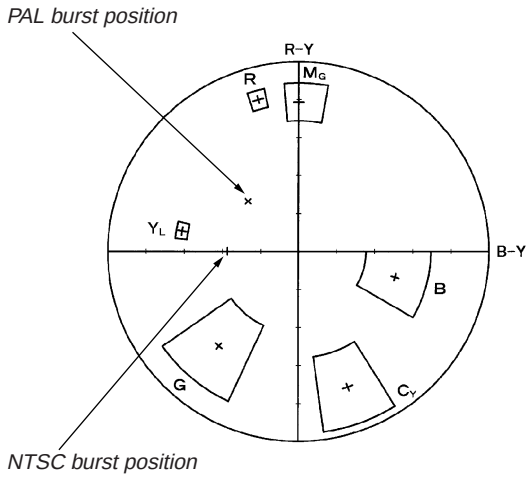


Fig. 5-1-12

15. White Balance Check

Subject	Clear chart (Color bar standard picture frame)
Filter	Filter C14 for color temperature correction ND filter 1.0 and 0.3
Measurement Point	Video output terminal
Measuring Instrument	Vectorscope
Specified Value	Fig. 5-1-13 (A) to (C)

Checking method:

1) Check that the lens is not covered with either filter.
2) Select page: 6, address: 01, set data: 0F, and press the PAUSE button of the adjustment remote commander.
3) Check that the center of the white luminance point is within the circle shown Fig. 5-1-13 (A).
4) Select page: 6, address: 01, set data: 23, and press the PAUSE button of the adjustment remote commander.
5) Place the C14 filter on the lens.
6) Check that the center of the white luminance point settles in the circle shown Fig. 5-1-13 (B).
7) Remove the C14 filter, and place the ND filter 1.3 (1.0 + 0.3) on the lens.
8) Check that the white luminance point stopped moving, and then remove the ND filter 1.3.
9) Check that the center of the white luminance point settles within the circle shown Fig. 5-1-13 (C).

Processing after Completing Adjustments

1) Select page: 6, address: 01, and set data: 00, and press the PAUSE button of the adjustment remote commander.

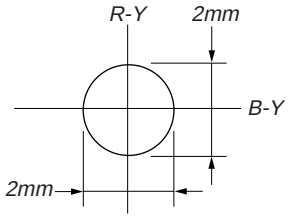


Fig. 5-1-13 (A)

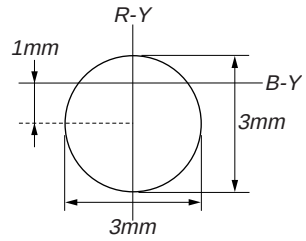


Fig. 5-1-13 (B)

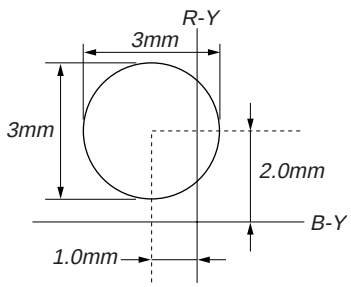


Fig. 5-1-13 (C)

16. PSD Sensor Gain Adjustment

Adjust the gain of the PSD sensor for steady shot operation.

16-1. PSD Sensor Gain Adjustment (1)

Subject	Pattern A (1.5 m from the front of the lens)
Measurement Point	Video output terminal
Measuring Instrument	Oscilloscope (V period)
Adjustment Page	E
Adjustment Address	48

Pattern A

A4 size (297mm × 210mm)

Fig.5-1-14

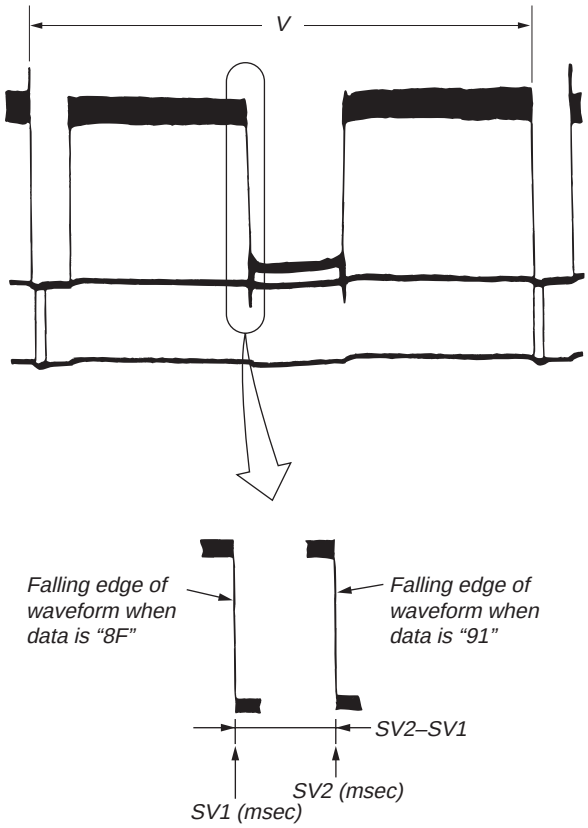


Fig. 5-1-15

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: E, address: 48, set data: 80, and press the PAUSE button of the adjustment remote commander.
3) Select page: 6, address: 01, set data: 8F, and press the PAUSE button of the adjustment remote commander.
4) Expose pattern A with the zoom TELE end.
5) Adjust the focus.
6) Measure the vertical position SV1 (msec) of the falling edge of the waveform. (Oscilloscope is V period)
7) Select page: 6, address: 01, set data: 91, and press the PAUSE button.
8) Measure the vertical position SV2 (msec) of the falling edge of the waveform. (Oscilloscope is V period)
9) Obtain D_{48}' using the following equation (decimal calculation).
   NTSC model
   $D_{48}' = 128 \times (2.88/(SV2–SV1))$
   PAL model
   $D_{48}' = 128 \times (3.40/(SV2–SV1))$
10) Convert D_{48}' to hexadecimal notation, and obtain D_{48}. (Round off to one decimal place)
    (Refer to Table 5-4-1. “Hexadecimal-decimal Conversion Table” of “5-4. Service Mode”.)
11) Select page: E, address: 48, set data: D_{48}, and press the PAUSE button of the adjustment remote commander.

Processing after Completing Adjustments

1) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 0, address: 01, and set data: 00.
3) Check that the steady shot operation is performed normally.

16-2. PSD Sensor Gain Adjustment (2)

Subject	Pattern B (1.5 m from the front of the lens)
Measurement Point	Video output terminal
Measuring Instrument	Oscilloscope (H period)
Adjustment Page	E
Adjustment Address	49

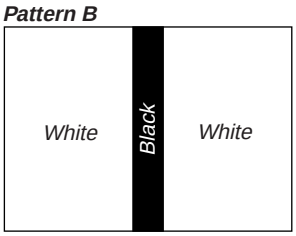


Fig.5-1-16

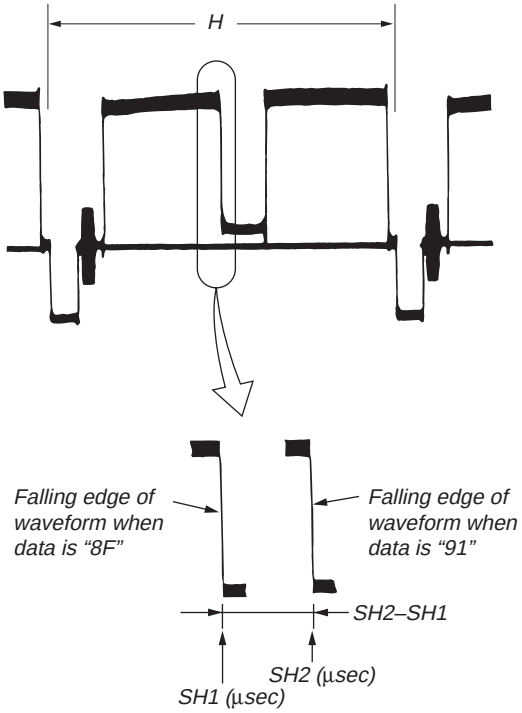


Fig. 5-1-17

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: E, address: 49, set data: 80, and press the PAUSE button of the adjustment remote commander.
3) Select page: 6, address: 01, set data: 8F, and press the PAUSE button of the adjustment remote commander.
4) Expose pattern B with the zoom TELE end.
5) Adjust the focus.
6) Measure the horizontal position SH1 (µ sec) of the falling edge of the waveform. (Oscilloscope is H period)
7) Select page: 6, address: 01, set data: 91, and press the PAUSE button.
8) Measure the horizontal position SH2 (µ sec) of the falling edge of the waveform. (Oscilloscope is H period)
9) Obtain D_{49}' using the following equation (decimal calculation).
   $D_{49}' = 128 \times (7.4/(SH2–SH1))$
10) Convert D_{49}' to hexadecimal notation, and obtain D_{49}. (Round off to one decimal place)
    (Refer to Table 5-4-1. "Hexadecimal-decimal Conversion Table" of "5-4. Service Mode".)
11) Select page: E, address: 49, set data: D_{49}, and press the PAUSE button of the adjustment remote commander.

Processing after Completing Adjustments

1) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 0, address: 01, and set data: 00.
3) Check that the steady shot operation is performed normally.

17. Angular Velocity Sensor Sensitivity Adjustment

- This adjustment is performed only when replacing the angular velocity sensor.
  Although this adjustment need not be performed when the circuit is damaged, etc., check the operations.
- Note down the sensitivity displayed on the angular velocity sensor of the repair parts. At this time, note down also to which board it was attached to.

Be sure to check because if attached incorrectly, the screen will vibrate up and down or left and right during hand-shake correction operations.

Precautions on the Parts Replacement

There are two types of repair parts.

Type A ENC03JA
Type B ENC03JB

Replace the broken sensor with a same type sensor. If replace with other type parts, the image will vibrate up and down or left and right during hand-shake correction operations. After replacing, re-adjust according to the adjusting method after replacement.

Precautions on Angular Velocity Sensor

The sensor incorporates a precision oscillator. Handle it with care as if it dropped, the balance of the oscillator will be disrupted and operations will not be performed properly.

Adjustment Page	F
Adjustment Address	41, 42

Note: The sensor sensitivity of SE450 and SE451 of the SE-75 board is written only on the repair parts.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Read the sensor sensitivity written on SE450 of the SE-75 board, and take this as S_{450}.
3) Read the sensor sensitivity written on SE451 of the SE-75 board, and take this as S_{451}.
4) Calculate D_{41}' and D_{42}' using the following equation (decimal calculation).
   $D_{41}' = 80 \times (0.60/S_{451})$
   $D_{42}' = 80 \times (0.60/S_{450})$
5) Convert D_{41}' and D_{42}' into hexadecimal digits, to obtain D_{41} and D_{42}. (Round off decimal points)
6) Select page: F, address: 41, set data: D_{41}, and press the PAUSE button of the adjustment remote commander.
7) Select page: F, address: 42, set data: D_{42}, and press the PAUSE button of the adjustment remote commander.

Processing after Completing Adjustments

1) Select page: 0, address: 01, and set data: 00.
2) Check that the steady shot operations have been performed normally.

1-4. COLOR ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENT

Note 1: The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note 2: When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note 3: Set the VF BRIGHT (Menu display) to the center.

[Adjusting connector]

Most of the measuring points for adjusting the viewfinder system are concentrated in CN2904 of the VI-151 board.

Connect the Measuring Instruments via the CPC-8 jig (J-6082-388-A).

The following table shows the Pin No. and signal name of CN2904.

Pin No.	Signal Name	Pin No.	Signal Name
1	LANC SIG	2	EVF BL +
3	EVF BL –	4	EVF VG
5	EVF VCO	6	GND
7	PD VG	8	PD VCO
9	H START	10	XHD/PSIG
11	PANEL COM	12	TMS
13	TCK	14	TDI
15	TDO	16	GND
17	SWP	18	RF IN/LANC JACK IN
19	GND	20	RF MON

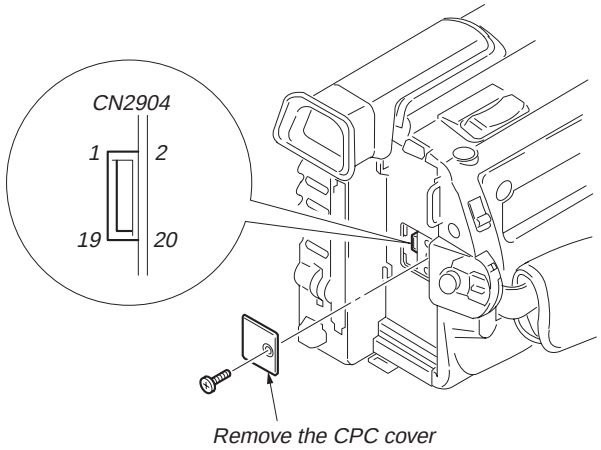


Fig. 5-1-18

1. VCO Adjustment (VF-121 Board)

Set the VCO free-run frequency. If deviated, the EVF screen will be blurred.

Mode	VTR stop
Signal	Arbitrary
Measurement Point	Pin ⑤ of CN2904 (EVF VCO) on VI-151 board
Measuring Instrument	Oscilloscope (DC range)
Adjustment Page	D
Adjustment Address	75
Specified Value	A = 1.7 ± 0.2V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Check the GND level of the oscilloscope.
3) Select page: D, address: 75, change the data and set the VCO output voltage (A) to the specified value.
4) Press the PAUSE button of the adjustment remote commander.
5) Select page: 0, address: 01, and set data: 00.

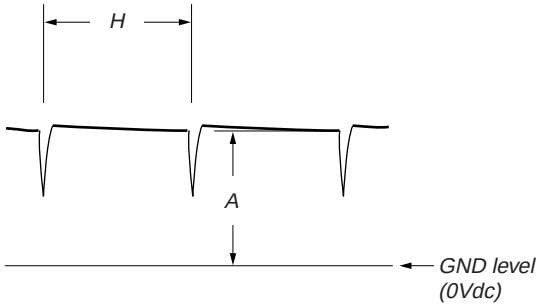


Fig. 5-1-19

2. Bright Adjustment (VF-121 Board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ④ of CN2904 (EVF VG) on VI-151 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	7A
Specified Value	A = 7.25 ± 0.05 V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 20, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 22, set data: 02, and press the PAUSE button of the adjustment remote commander.
4) Select page: D, address: 7A, change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
   (The data of address: 7A should be “54” to “D7”.)
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: 3, address: 22, set data: 00, and press the PAUSE button of the adjustment remote commander.
7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
8) Select page: 0, address: 01, and set data: 00.

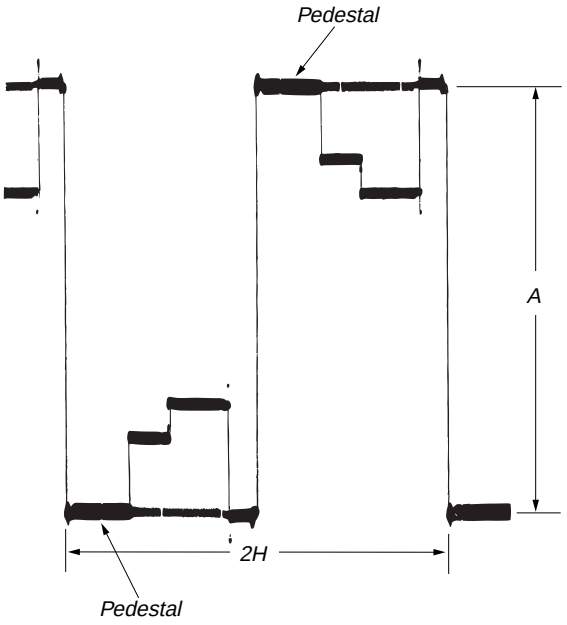


Fig. 5-1-20

3. Contrast Adjustment (VF-121 Board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ④ of CN2904 (EVF VG) on VI-151 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	7B
Specified Value	A = 1.81 ± 0.05 V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 20, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 22, set data: 02, and press the PAUSE button of the adjustment remote commander.
4) Select page: D, address: 7B, change the data and set the voltage (A) between the 100 IRE and 0 IRE (pedestal) to the specified value.
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: 3, address: 22, set data: 00, and press the PAUSE button of the adjustment remote commander.
7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
8) Select page: 0, address: 01, and set data: 00.

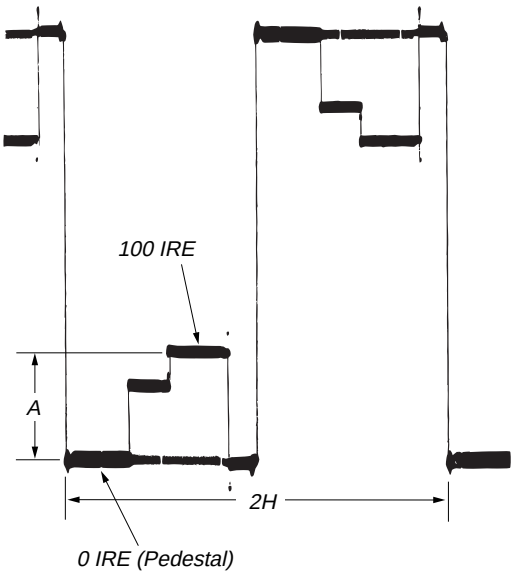


Fig. 5-1-21

4. Backlight Consumption Current Adjustment (VF-121 Board)

Set the backlight luminance and color temperature.
If deviated, the image may become dark or bright.

Mode	Camera
Subject	Arbitrary
Measurement Point	+ Probe: Pin ② of CN2904 (EVF BL +) on VI-151 board – Probe: Pin ③ of CN2904 (EVF BL –) on VI-151 board
Measuring Instrument	Digital voltmeter
Adjustment Page	D
Adjustment Address	76
Specified Value	A = 17.0 ± 1.0 mVdc

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 76, change the data and set the voltage difference (A) between Pin ② of CN2904 (EVF BL +) and Pin ③ of CN2904 (EVF BL –) to the specified value.
3) Press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 00.

5. White Balance Adjustment (VF-121 Board)

Correct the white balance.
If deviated, the reproduction of the EVF screen may degenerate.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on EVF screen
Measuring Instrument	
Adjustment Page	D
Adjustment Address	71, 72
Specified Value	The EVF screen should not be colored.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 20, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 22, set data: 0B, and press the PAUSE button of the adjustment remote commander.
4) Select page: D, address: 71 and 72, set the data to the initial value.
   Note: Press the PAUSE button of the adjustment remote commander each time to set the data.

Address	71	72
Data	80	80

5) Check that the EVF screen is not colored. If colored, change the data of page: D, address: 71 and 72 so that the EVF screen is not colored.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
6) Select page: 3, address: 22, set data: 00, and press the PAUSE button of the adjustment remote commander.
7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
8) Select page: 0, address: 01, and set data: 00.

1-5. LCD SYSTEM ADJUSTMENT

Note 1: The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note 2: When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note 3: Set the LCD BRIGHT to the center.
Set the LCD COLOR (Menu display) to the center.

[Adjusting connector]

Most of the measuring points for adjusting the LCD system are concentrated in CN2904 of the VI-151 board.
Connect the Measuring Instruments via the CPC-8 jig (J-6082-388-A).
The following table shows the Pin No. and signal name of CN2904.

Pin No.	Signal Name	Pin No.	Signal Name
1	LANC SIG	2	EVF BL +
3	EVF BL –	4	EVF VG
5	EVF VCO	6	GND
7	PD VG	8	PD VCO
9	H START	10	XHD/PSIG
11	PANEL COM	12	TMS
13	TCK	14	TDI
15	TDO	16	GND
17	SWP	18	RF IN/LANC JACK IN
19	GND	20	RF MON

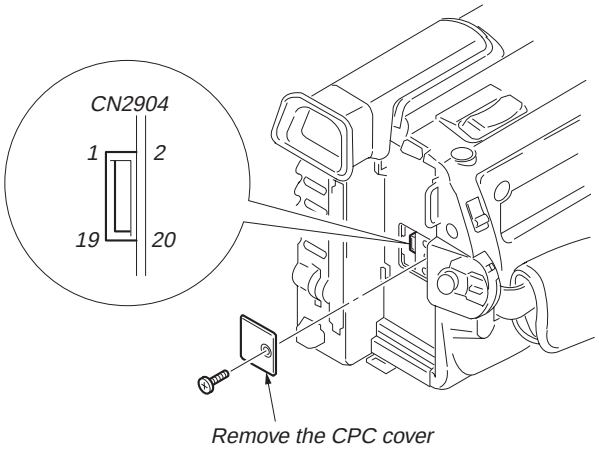


Fig. 5-1-22

1. VCO Adjustment (PD-101 Board)

Set the VCO free-run frequency. If deviated, the LCD screen will be blurred.

Mode	VTR stop
Signal	arbitrary
Measurement Point	Pin ⑨ of CN2904 (H START) on VI-151 board
Measuring Instrument	Frequency counter
Adjustment Page	D
Adjustment Address	84
Specified Value	f = 15734 ± 30 Hz (NTSC) f = 15625 ± 30 Hz (PAL)

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 20, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 22, set data: 03, and press the PAUSE button of the adjustment remote commander.
4) Select page: D, address: 84, change the data and set the frequency (f) to the specified value.
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: 3, address: 22, set data: 00, and press the PAUSE button of the adjustment remote commander.
7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
8) Select page: 0, address: 01, and set data: 00.

2. D range Adjustment (PD-101 Board)

Set the D range of the RGB decoder used to drive the LCD to the specified value. If deviated, the LCD screen will become blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑦ of CN2904 (PD VG) on VI-151 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	82
Specified Value	A = 3.56 ± 0.05 V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 20, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 22, set data: 02, and press the PAUSE button of the adjustment remote commander.
4) Select page: D, address: 82, change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: 3, address: 22, set data: 00, and press the PAUSE button of the adjustment remote commander.
7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
8) Select page: 0, address: 01, and set data: 00.

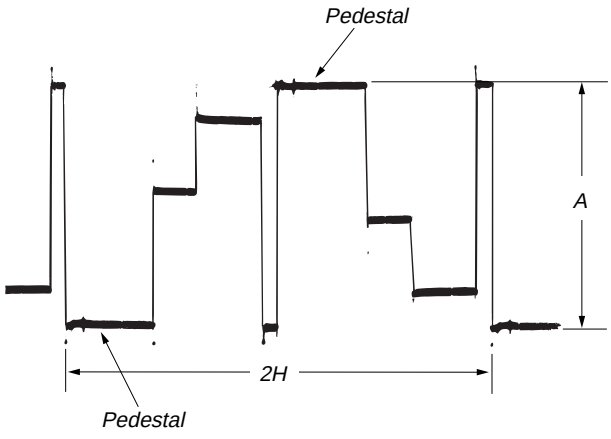


Fig. 5-1-23

3. Bright Adjustment (PD-101 Board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑦ of CN2904 (PD VG) on VI-151 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	8A
Specified Value	A = 1.94 ± 0.05 V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 20, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 22, set data: 02, and press the PAUSE button of the adjustment remote commander.
4) Select page: 2, address: 0E, and set data: 40.
5) Select page: D, address: 8A, change the data and set the voltage (A) between the pedestal and GAMMA1 limiter level to the specified value. (The data of address: 8A should be “1E” to “A0”.)
6) Press the PAUSE button of the adjustment remote commander.
7) Select page: 2, address: 0E, and set data: 00.
8) Select page: 3, address: 22, set data: 00, and press the PAUSE button of the adjustment remote commander.
9) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
10) Select page: 0, address: 01, and set data: 00.

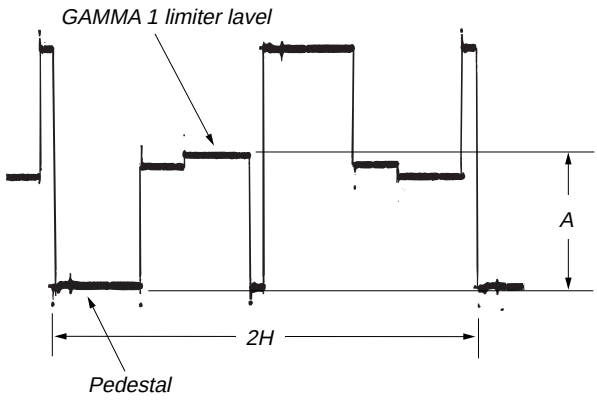


Fig. 5-1-24

4. Contrast Adjustment (PD-101 Board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑦ of CN2904 (PD VG) on VI-151 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	8C
Specified Value	A = 3.04 ± 0.05 V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 20, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 22, set data: 02, and press the PAUSE button of the adjustment remote commander.
4) Select page: D, address: 8C, change the data and set the voltage (A) between the 0 IRE (pedestal) and 100 IRE to the specified value.
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: 3, address: 22, set data: 00, and press the PAUSE button of the adjustment remote commander.
7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
8) Select page: 0, address: 01, and set data: 00.

5. V-COM Level Adjustment (PD-101 Board)

Set the common electrode drive signal level of LCD to the specified value.

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑪ of CN2904 (PANEL COM) on VI-151 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	83
Specified Value	A = 6.85 ± 0.05 V

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 20, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 22, set data: 02, and press the PAUSE button of the adjustment remote commander.
4) Select page: D, address: 83, change the data and set the PANEL COM signal level (A) to the specified value.
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: 3, address: 22, set data: 00, and press the PAUSE button of the adjustment remote commander.
7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
8) Select page: 0, address: 01, and set data: 00.

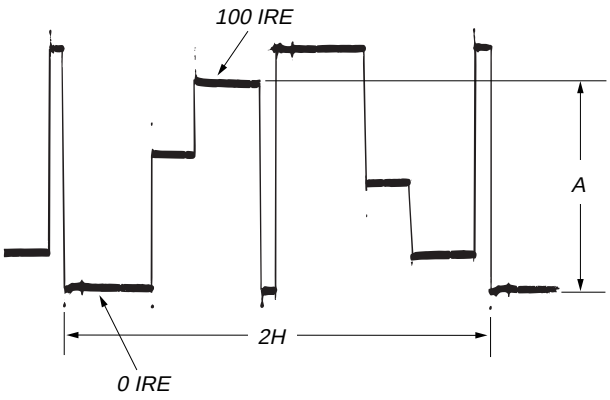


Fig. 5-1-25

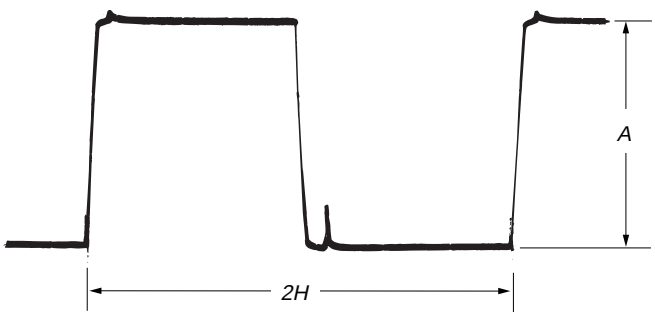


Fig. 5-1-26

6. V-COM Adjustment (PD-101 Board)

Set the DC bias of the common electrode drive signal of LCD to the specified value.
If deviated, the LCD display will move, producing flicker and conspicuous vertical lines.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on LCD display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	85
Specified Value	The brightness difference between the section A and section B is minimum.

Note: Perform "Bright Adjustment" and "Contrast Adjustment" before this adjustment.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 20, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 22, set data: 0F, and press the PAUSE button of the adjustment remote commander.
4) Select page: 2, address: 0E, and set data: 20.
5) Select page: D, address: 85, change the data so that the brightness of the section A and that of the section B is equal.
6) Press the PAUSE button of the adjustment remote commander.
7) Select page: 2, address: 0E, and set data: 00.
8) Select page: 3, address: 22, set data: 00, and press the PAUSE button of the adjustment remote commander.
9) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
10) Select page: 0, address: 01, and set data: 00.

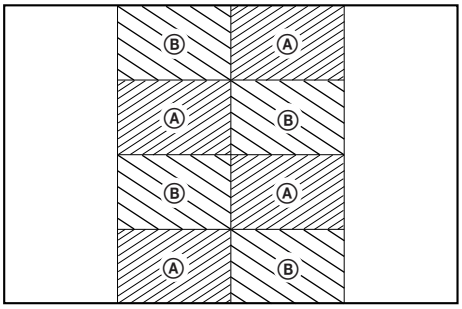


Fig. 5-1-27

7. White Balance Adjustment (PD-101 Board)

Correct the white balance.
If deviated, the LCD screen color cannot be reproduced.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on LCD display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	80, 81
Specified Value	The LCD screen should not be colored.

Note: Check the white balance only when replacing the following parts. If necessary, adjust them.
1. LCD panel
2. Light induction plate
3. IC5502

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 20, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 22, set data: 0B, and press the PAUSE button of the adjustment remote commander.
4) Select page: D, address: 80 and 81, set the data to the initial value.
   Note: Press the PAUSE button of the adjustment remote commander each time to set the data.

Address	80	81
Data	A0	70

5) Check that the LCD screen is not colored. If colored, change the data of page: D, address: 80 and 81 so that the LCD screen is not colored.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
6) Select page: 3, address: 22, set data: 00, and press the PAUSE button of the adjustment remote commander.
7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
8) Select page: 0, address: 01, and set data: 00.

5-2. MECHANICAL SECTION ADJUSTMENT

2-1. PARTS REPLACEMENT AND PREPARATION FOR ADJUSTMENT

• About Mode Selector II

2-1-1. Outline

This unit is a mechanism drive tool which supplements the maintenance of each mechanism deck. Its functions are described below.

1. Manual test

A mode which drives the motor only while the switch is ON. It enables the operator to control the motor as desired.

2. Step test

A mode which drives the motor until the current condition detected by the sensor changes to another condition. It enables the movements made by the motor in each operation to be controlled while being checked.

3. Auto test

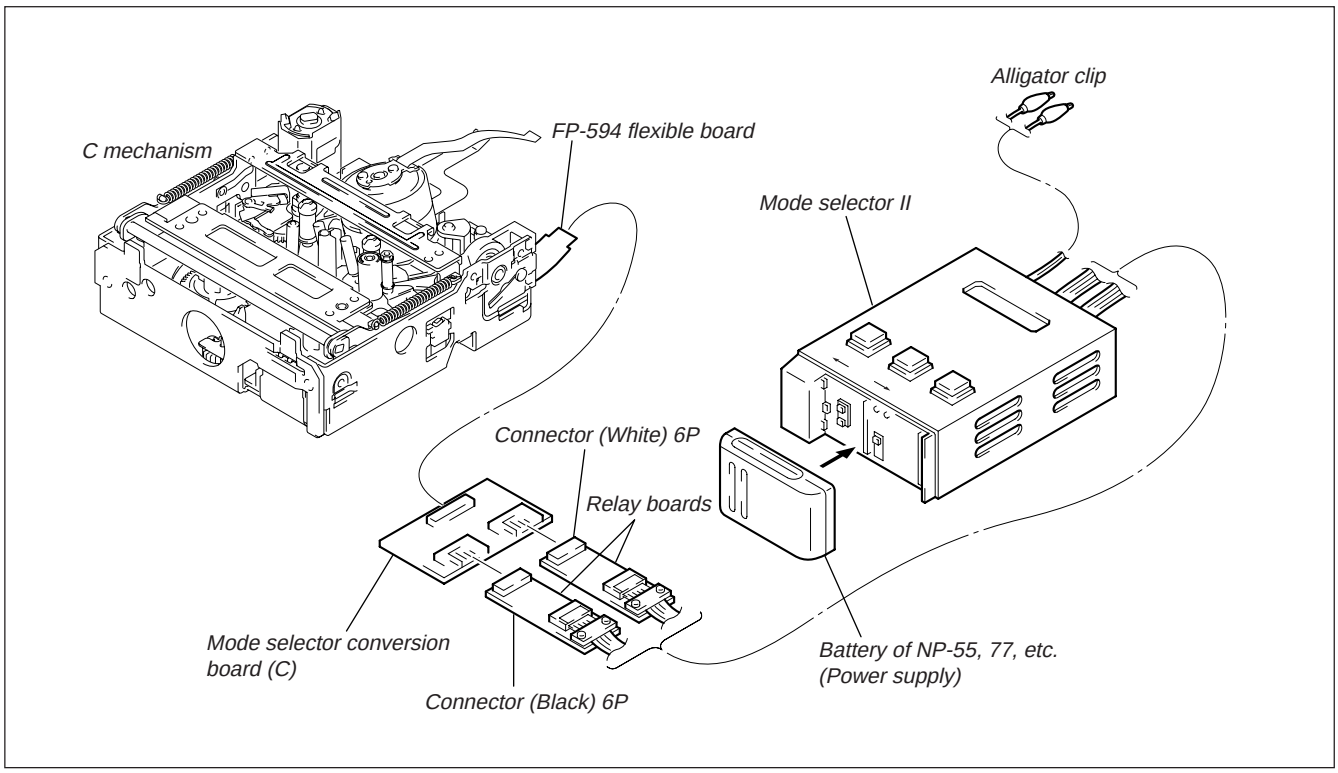
A mode that checks if the mechanism operates normally according to the condition shift table recorded in the unit for each mechanism deck. All the conditions of the decks are checked through a series of operations.
An error message is displayed if incorrect shifts and conditions are detected and operations are stopped.

2-1-2. Mechanism Condition (Position) Shifting Order List

After selecting the mechanism deck, select one of the two test modes other than the auto test, and press the RVS and FF button to specify the mechanism state (position).

Code \ *MD name*					*C mechanism*
A	*B*	*C*	*D*		
1	*1*	*1*	*0*	*1*	*EJECT*
1	*0*	*1*	*0*	*2*	*ULE*
1	*0*	*1*	*1*	*3*	*SR*
1	*0*	*0*	*1*	*4*	*HL*
0	*1*	*1*	*1*	*5*	*LE*
0	*0*	*1*	*1*	*6*	*STOP*
1	*1*	*0*	*1*	*7*	*RP*
1	*1*	*0*	*0*	*8*	*REW*

2-1-3. Mode Selector II (A-6082-282-A) Connection



2-1-4. The Mechanical Adjustment Requires the Following Tools

1) Cleaning fluid (Y-2031-001-0)
2) Wiping cloth (7-741-900-53)
3) Super fine applicator
   (Made by NIPPON APPLICATOR (P752D))
4) Mirror (Small oval type) (J-6082-840-A)
5) Screwdriver for tape path (J-6082-026-A)
6) Torque driver (J-9049-330-A)
7) TG1 adjustment jig (FWD position adjustment)
   (J-6082-420-A)
8) Mode selector conversion board (C) (J-6082-417-A)
9) Tracking tape (XH2-1A1) (NTSC/PAL) (8-967-999-03)
10) Mini DV torque cassette (J-6082-360-A)
11) Mode selector Ⅱ (J-6082-282-A)
12) Mode selector Ⅱ ROM (Corresponds to C mechanism)
    (J-6082-314-D)
13) Bending stick (J-6082-419-A)

Screw tightening torque tolerance.
0.0098 N.m (0.1 kg.cm)

2-2. PARTS REPLACEMENT

Precautions

For details on removing the cabinet and board, refer to "2. DISASSEMBLY". For details on the replacement of mechanism parts (removal or attaching), refer to the respective flowcharts, and perform the procedure given.

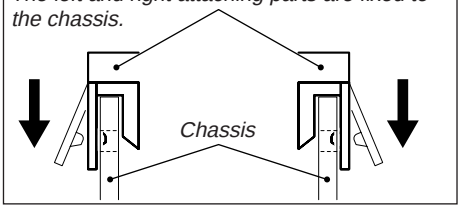
2-2-1. Tape Fall Stopper, HC Roller and HC Arm

Removing method: Spread out the left and right attaching parts and remove them upwards.

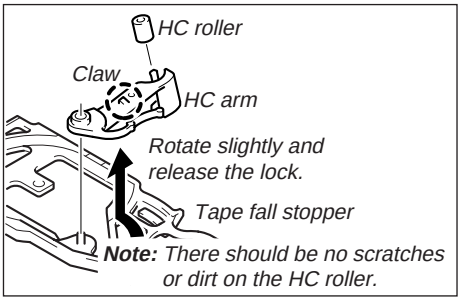
Attaching method: Refer to the Details diagram.

Details diagram on attachment of tape fall stopper

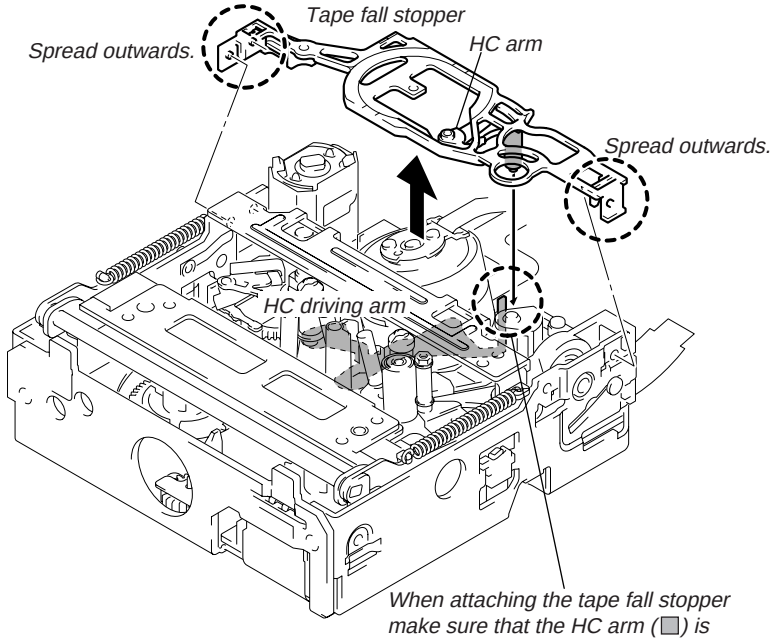
The left and right attaching parts are fixed to the chassis.



Details diagram on removal and attachment of HC arm and HC roller



Note: *There should be no scratches or dirt on the HC roller.*



When attaching the tape fall stopper make sure that the HC arm (□) is outside the HC driving arm (capstan motor side).

2-2-2. Drum Assembly and Drum Base Block Assembly

Remove the

"2-2-1. Tape Fall Stopper"

Removing method: Remove in the order of ①→②→③→④.

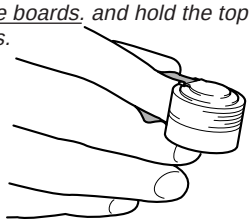
Attaching method: Attach in the order of ④→③→②→①.

Note: Tighten the screws in the order of Ⓐ, Ⓑ, and Ⓒ.)

<u>After attaching all the parts, refer to the flowchart on page 5-40, and perform the adjustments from Starting adjustments-2.</u>

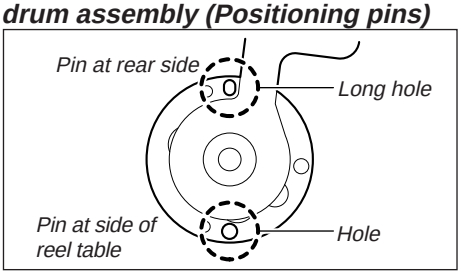
Holding the drum assembly

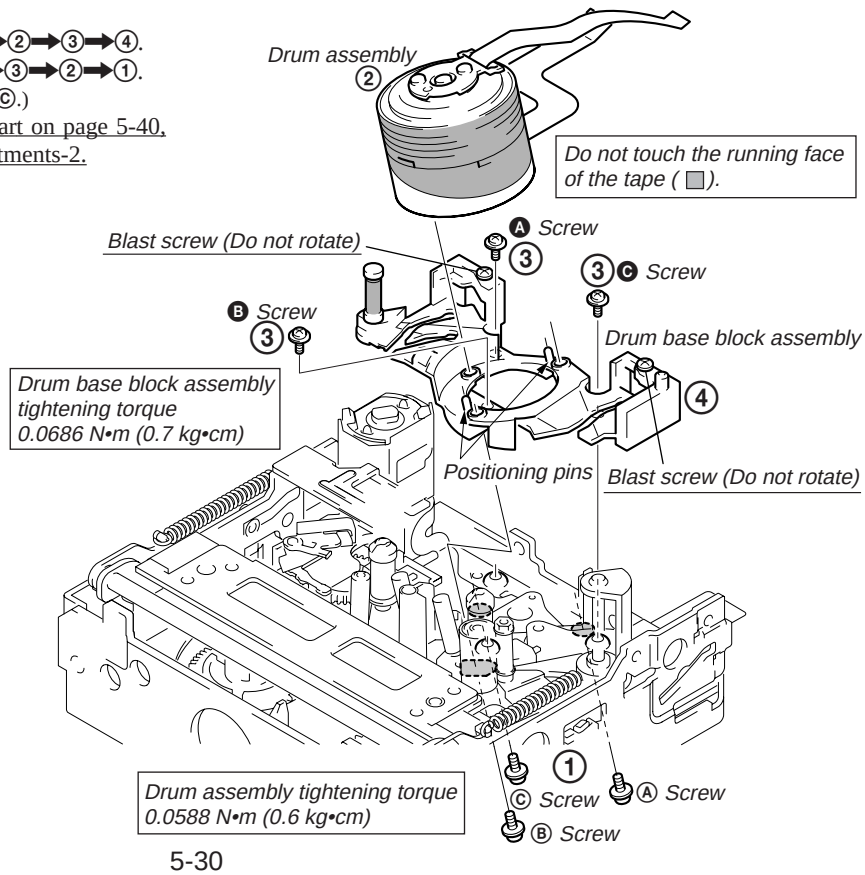
Insert your second finger <u>between the two flexible boards</u>, and hold the top and bottom boards.



Note: *Do not touch the running face of the drum assembly.*

Details diagram on attachment of drum assembly (Positioning pins)



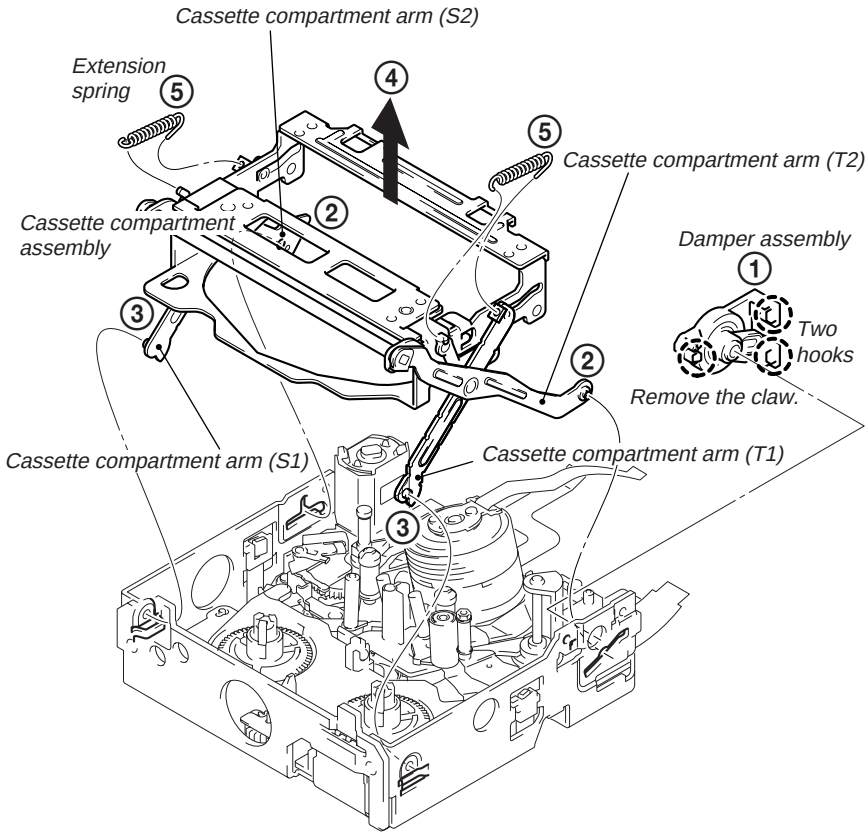


2-2-3. Damper Assembly, Cassette Compartment Assembly and Extension Spring

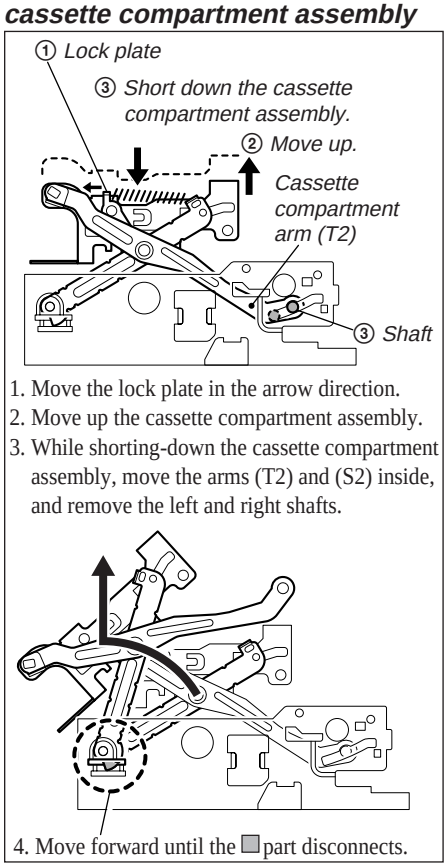
Remove the

"2-2-1. Tape Fall Stopper"

Removing method: Remove in the order of ①➡②➡③➡④➡⑤.



Details diagram on removal of cassette compartment assembly

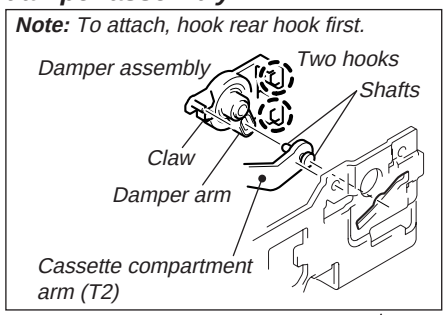

① Lock plate
③ Short down the cassette compartment assembly.
② Move up.
Cassette compartment arm (T2)
③ Shaft
1. Move the lock plate in the arrow direction.
2. Move up the cassette compartment assembly.
3. While shorting-down the cassette compartment assembly, move the arms (T2) and (S2) inside, and remove the left and right shafts.
4. Move forward until the ▢ part disconnects.

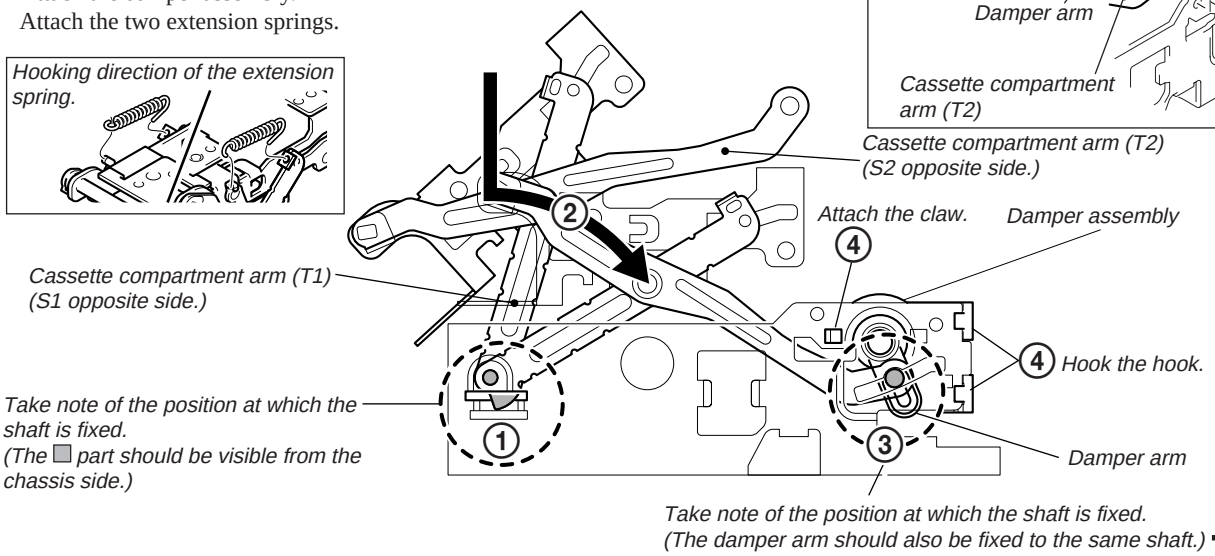
Attaching method: Attach in the order of ①➡②➡③➡④.

Note: Be careful not to deform the cassette compartment.

1. Insert the left and right shafts of the cassette compartment arms (S1) and (T1) into the chassis.
2. Push down the cassette compartment assembly in the direction of arrow ②.
3. Insert the left and right shafts of the cassette compartment arms (S2) and (T2) into the chassis.
4. Attach the damper assembly.
5. Attach the two extension springs.

Details diagram on attachment of damper assembly




Cassette compartment arm (T2) (S2 opposite side.)
Attach the claw.
Damper assembly
2
4
Cassette compartment arm (T1) (S1 opposite side.)
4 Hook the hook.
Take note of the position at which the shaft is fixed. (The ▢ part should be visible from the chassis side.)
1
3
Damper arm
Take note of the position at which the shaft is fixed. (The damper arm should also be fixed to the same shaft.)

Screw tightening torque tolerance.
0.0098 N.m (0.1 kg.cm)

2-2-4. Reel Table (S) / Reel Table (T) Assembly

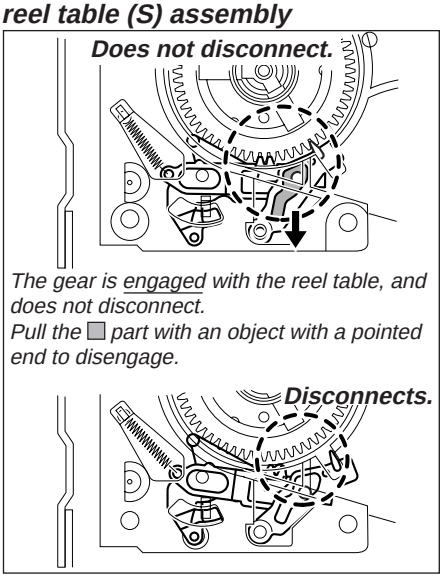
Remove the

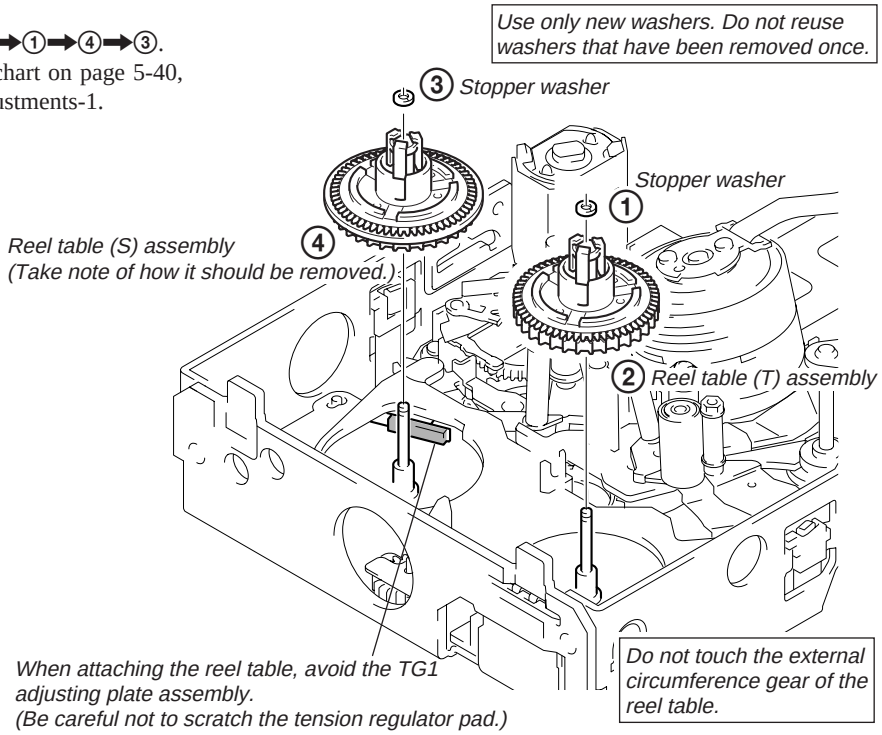
"2-2-1. Tape Fall Stopper"

and "2-2-3. Damper Assembly and Cassette Compartment Assembly"

Removing method: Remove in the order of ①➡②➡③➡④.
Attaching method: Attach in the order of ②➡①➡④➡③.
After attaching all the parts, refer to the flowchart on page 5-40, and perform the adjustments from Starting adjustments-1.

Details diagram on removal of reel table (S) assembly


Does not disconnect.
The gear is engaged with the reel table, and does not disconnect.
Pull the ▢ part with an object with a pointed end to disengage.
Disconnects.


Use only new washers. Do not reuse washers that have been removed once.
③ Stopper washer
Stopper washer
①
④
Reel table (S) assembly
(Take note of how it should be removed.)
② Reel table (T) assembly
When attaching the reel table, avoid the TG1 adjusting plate assembly.
(Be careful not to scratch the tension regulator pad.)
Do not touch the external circumference gear of the reel table.

2-2-5. Cassette Base Block Assembly, Gooseneck Gear Assembly and Relay Gear

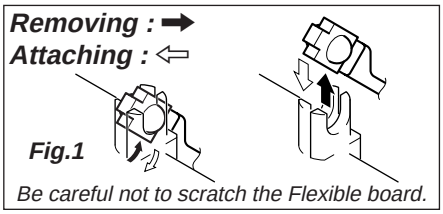
Remove the

"2-2-1. Tape Fall Stopper"

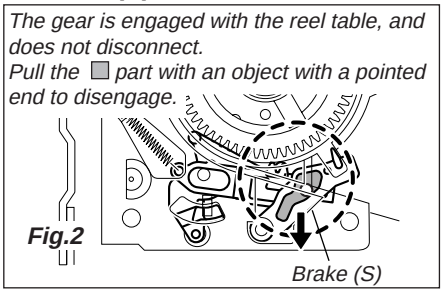
and "2-2-3. Damper Assembly and Cassette Compartment Assembly"

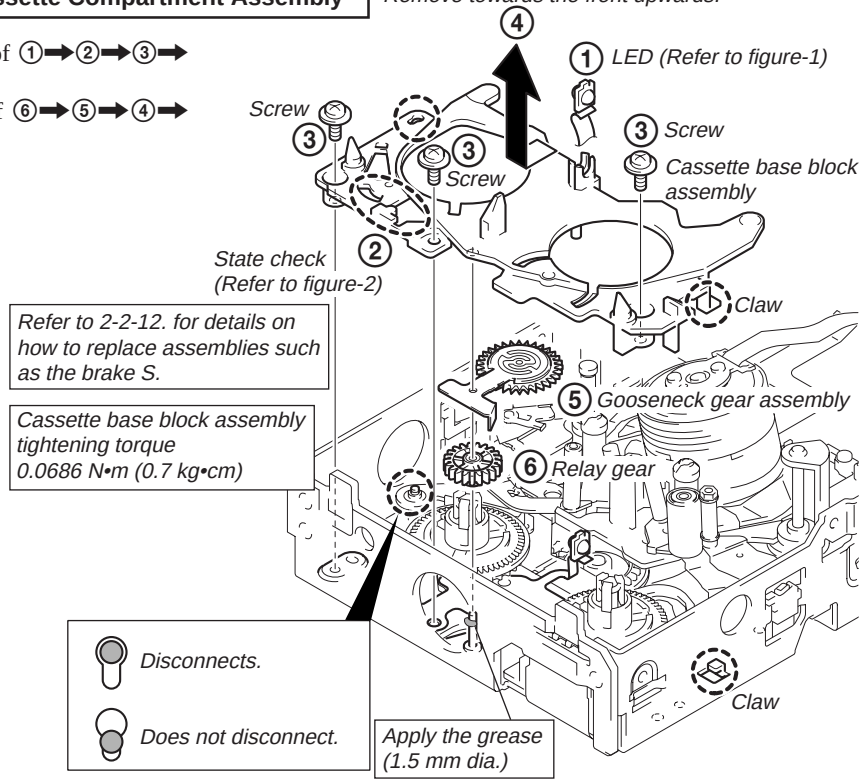
Removing method: Remove in the order of ①➡②➡③➡④➡⑤➡⑥.
Attaching method: Attach in the order of ⑥➡⑤➡④➡③➡②➡①.

Details diagram on removal and attachment of LED



Details diagram on State Checking of Brake (S)


The gear is engaged with the reel table, and does not disconnect.
Pull the ▢ part with an object with a pointed end to disengage.
Fig.2
Brake (S)



Screw tightening torque tolerance. 0.0098 N.m (0.1 kg.cm)

2-2-6. TG1 Adjustment Plate Assembly, Tension Coil Spring (TG1), TG1 Arm Assembly, TG7 Retainer Spring and TG7 Arm Block Assembly

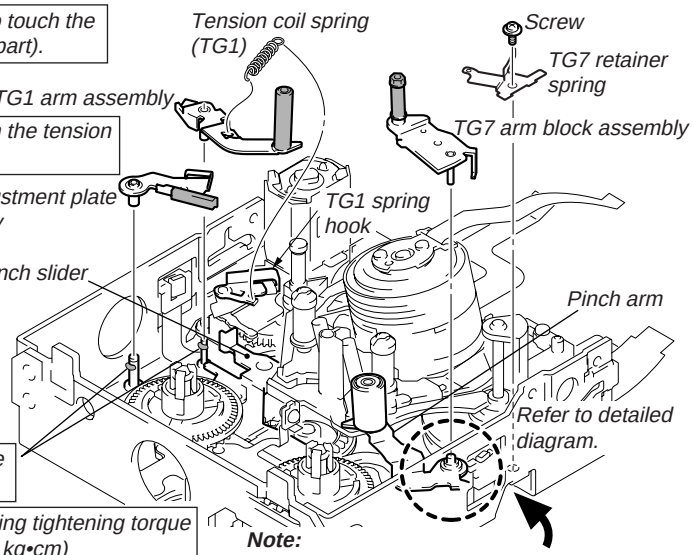
Remove the

"2-2-1. Tape Fall Stopper"
↓
"2-2-3. Damper Assembly and Cassette Compartment Assembly"
↓
and "2-2-5. Cassette Base Block Assembly"

Removing method: Remove the desired parts as shown in the figure.
Attaching method: Refer to the detailed diagrams.
After attaching all the parts, refer to the flowchart on page 5-40, and perform the adjustments from Starting adjustments-1.

Be careful not to touch the tape guide (▩ part).

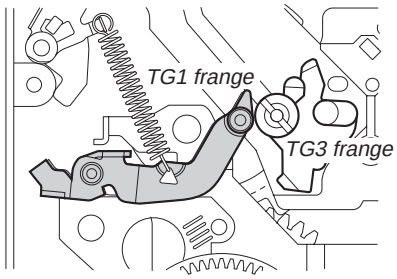
Do no scratch the tension regulator pad.



Note:
Insert the tweezers from this hole, temporarily tighten the spring, and release it.

Details diagram on attachment of TG1 arm assembly

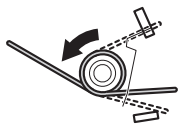
Attach so that the TG1 flange is almost parallel to the TG3 flange.



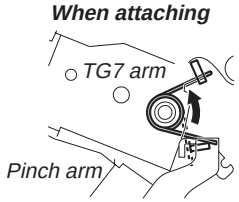
Details diagram on removal and attachment of TG7 arm block assembly

Remove the tension of the spring attached to the TG7 arm. To attach, temporarily attach the spring to the pinch arm from the chassis hole using a pair of tweezers.

When removing



When attaching



2-2-7. Brake Slider Assembly, Pinch Slider Assembly and Cam Gear

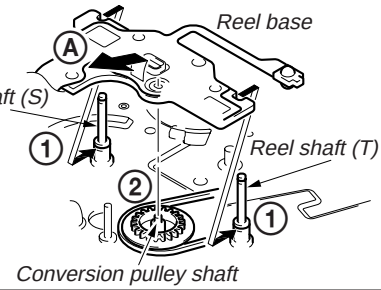
Remove the

"2-2-1. Tape Fall Stopper"
↓
"2-2-3. Damper Assembly and Cassette Compartment Assembly"
↓
"2-2-4. Reel Table (S) / Reel Table (T) Assembly"
↓
"2-2-5. Cassette Base Block Assembly, Gooseneck Gear Assembly and Relay Gear"
↓
and "2-2-6. TG1 Arm Assembly and TG1 Adjustment Plate Assembly"

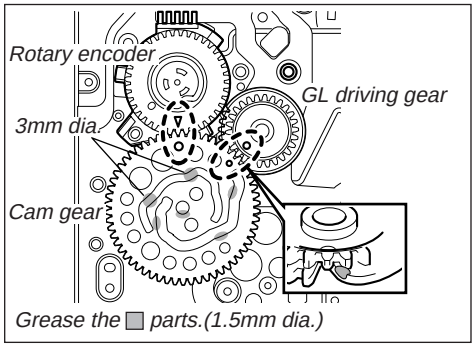
Removing method: Remove in the order of ①➡②➡③➡④.
Attaching method: Attach in the order of ④➡③➡②➡①.
(Be sure to adjust the position and phase.)

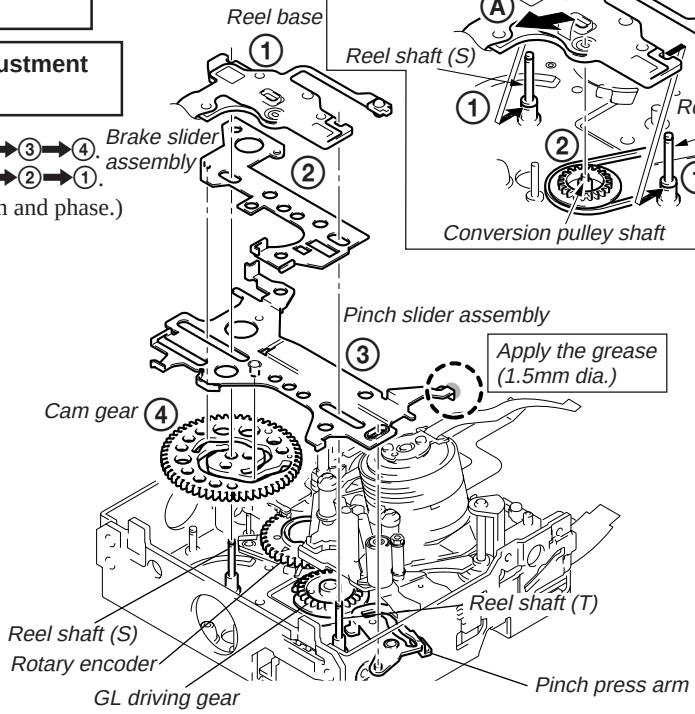
Details diagram on removal and attachment of reel base

Removing method: *Move upwards in the direction of arrow Ⓐ.*
Attaching method: *Attach in the order of ①➡②.*



Detailed diagram on the adjusting the phase of each gear, and parts to be greased.





Screw tightening torque tolerance.
0.0098 N.m (0.1 kg.cm)

2-2-8. Pinch Arm Assembly, Torsion Spring (TG7LD), Pinch Press Arm and Eject Arm

Remove the

"2-2-1. Tape Fall Stopper"

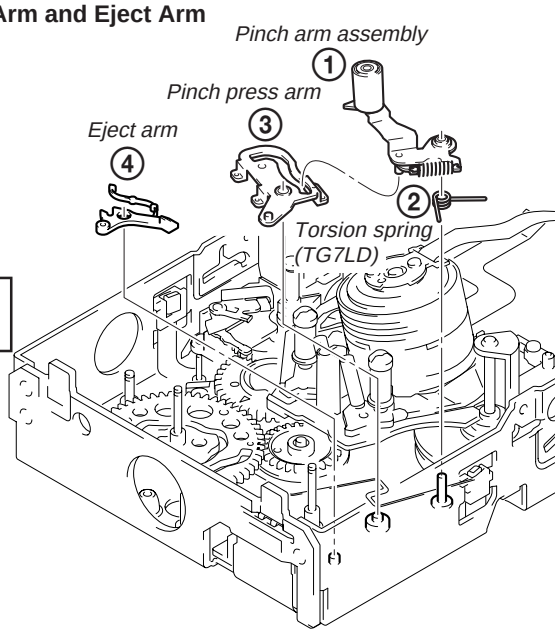
"2-2-3. Damper Assembly and Cassette Compartment Assembly"

"2-2-4. Reel Table (S) / Reel Table (T) Assembly"

"2-2-5. Cassette Base Block Assembly, Gooseneck Gear Assembly and Relay Gear"

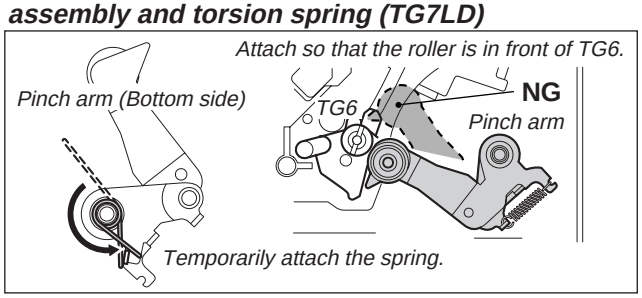
"2-2-6. TG1 Arm Assembly, TG1 Adjustment Plate Assembly and TG7 Arm Block Assembly"

and "2-2-7. Brake Slider Assembly and Pinch Slider Assembly"

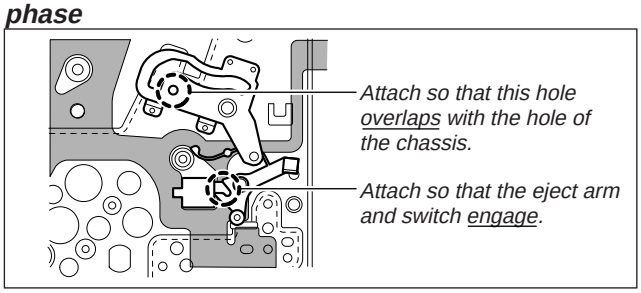


Removing method: Remove in the order of ①➡②➡③➡④.
Attaching method: Attach in the order of ④➡③➡②➡①.
(Be sure to adjust the position and phase.)

Details diagram on attachment of pinch arm assembly and torsion spring (TG7LD)



Details diagram on adjustment or position and phase



2-2-9. GL Block Assembly, GL Driving Gear and HC Driving Arm

Remove the

"2-2-1. Tape Fall Stopper"

"2-2-3. Damper Assembly and Cassette Compartment Assembly"

"2-2-2. Drum Assembly and Drum Base Block Assembly"

"2-2-4. Reel Table (S) / Reel Table (T) Assembly"

"2-2-5. Cassette Base Block Assembly, Gooseneck Gear Assembly and Relay Gear"

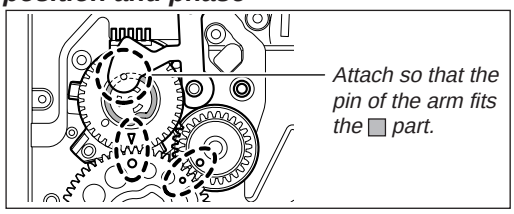
"2-2-6. TG1 Arm Assembly, TG1 Adjustment Plate Assembly and TG7 Arm Block Assembly"

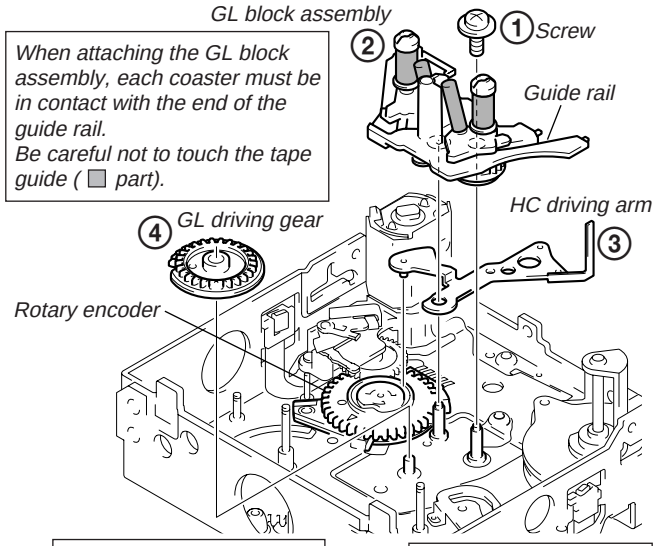
"2-2-7. Brake Slider Assembly, Pinch Slider Assembly and Cam Gear"

and "2-2-8. Pinch Arm Assembly"

Removing method: Remove in the order of ①➡②➡③➡④.
Attaching method: Attach in the order of ④➡③➡②➡①.
(Be sure to adjust the position and phase.)
After attaching all the parts, refer to the flowchart on page 5-40, and perform the adjustments from Starting adjustments-1.

Details diagram on adjustment of position and phase



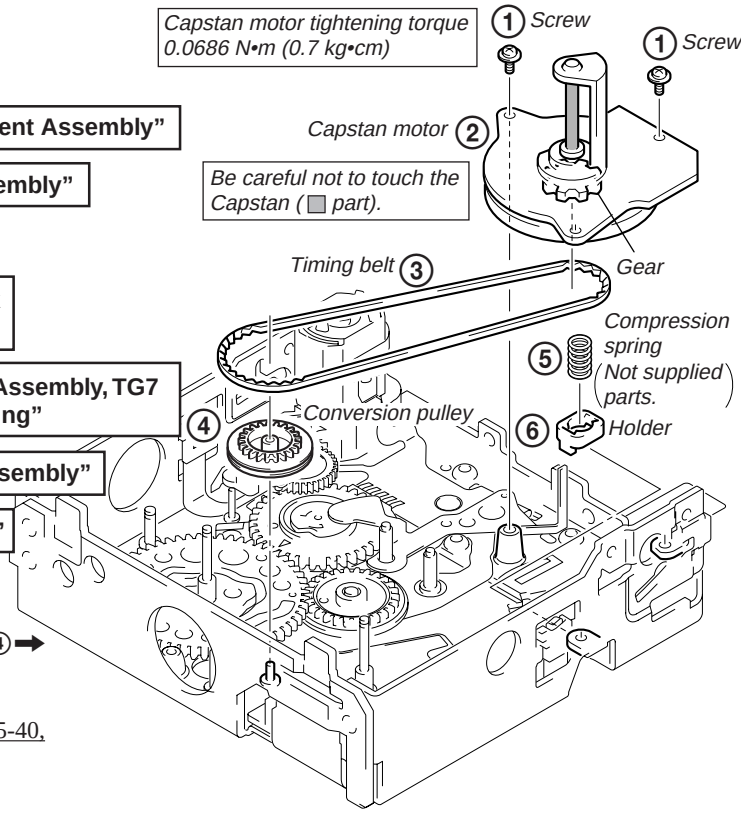

GL block assembly
When attaching the GL block assembly, each coaster must be in contact with the end of the guide rail.
Be careful not to touch the tape guide (□ part).
①Screw
②
Guide rail
HC driving arm
③
④GL driving gear
Rotary encoder
Refer to 3-13. for details on how to replace assemblies such as the guide rail.
GL block assembly tightening torque 0.0686 N•m (0.7 kg•cm)

Screw tightening torque tolerance.
0.0098 N.m (0.1 kg.cm)

2-2-10. Capstan Motor, Conversion Pulley, Timing Belt and Holder

Remove the

"2-2-1. Tape Fall Stopper"
"2-2-3. Damper Assembly and Cassette Compartment Assembly"
"2-2-2. Drum Assembly and Drum Base Block Assembly"
"2-2-4. Reel Table (S) / Reel Table (T) Assembly"
"2-2-5. Cassette Base Block Assembly, Gooseneck Gear Assembly and Relay Gear"
"2-2-6. TG1 Arm Assembly, TG1 Adjustment Plate Assembly, TG7 Arm Block Assembly and TG7 Retainer Spring"
"2-2-7. Brake Slider Assembly and Pinch Slider Assembly"
"2-2-8. Pinch Arm Assembly and Pinch Press Arm"
and "2-2-9. GL Block Assembly"

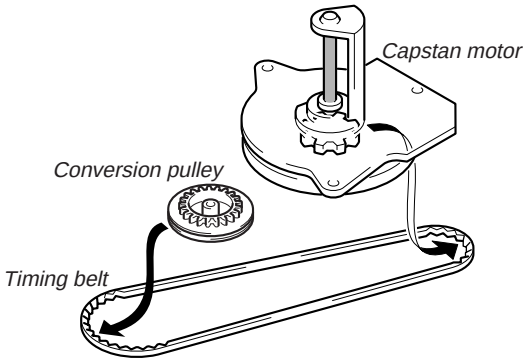


Removing method Remove in the order of ①→②→③→④→⑤→⑥.

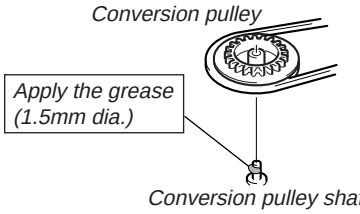
Attaching method: Refer to the following diagram.
<u>After attaching all the parts, refer to the flowchart on page 5-40, and perform the adjustments from Starting adjustments-1.</u>

Attachment of Timing Belt

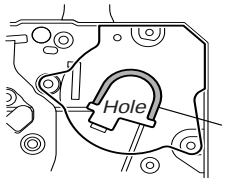
1. Refer to "Removing method", and attach the compression spring (TG7) and holder to the chassis.
2. Attach the timing belt to the capstan motor and the conversion pulley.



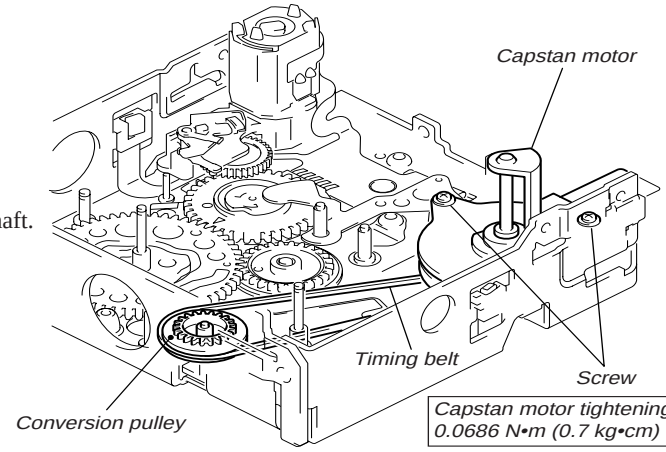
3. Attach the conversion pulley to the conversion pulley shaft. Attach the capstan motor to the chassis.
4. Secure the capstan motor with the screw.



5. After attaching, pull the timing belt lightly, and check that the movements of the conversion pulley and gear at the back of the capstan motor are linked.



When the capstan motor is screwed on with the belt protruding from the <u>indented part</u> of the part, the belt will become fixed.



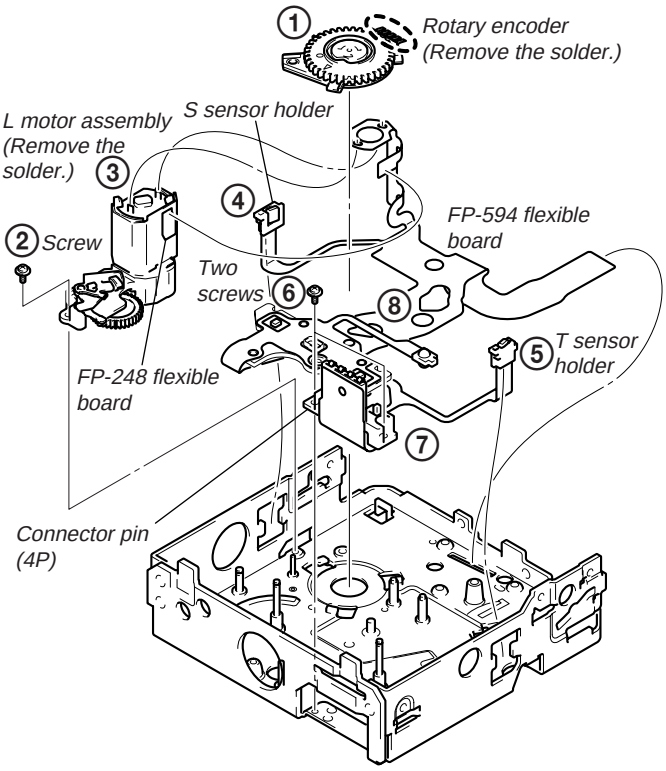
Screw tightening torque tolerance.
0.0098 N.m (0.1 kg.cm)

2-2-11. L Motor Block Assembly and FP-594 Flexible Board

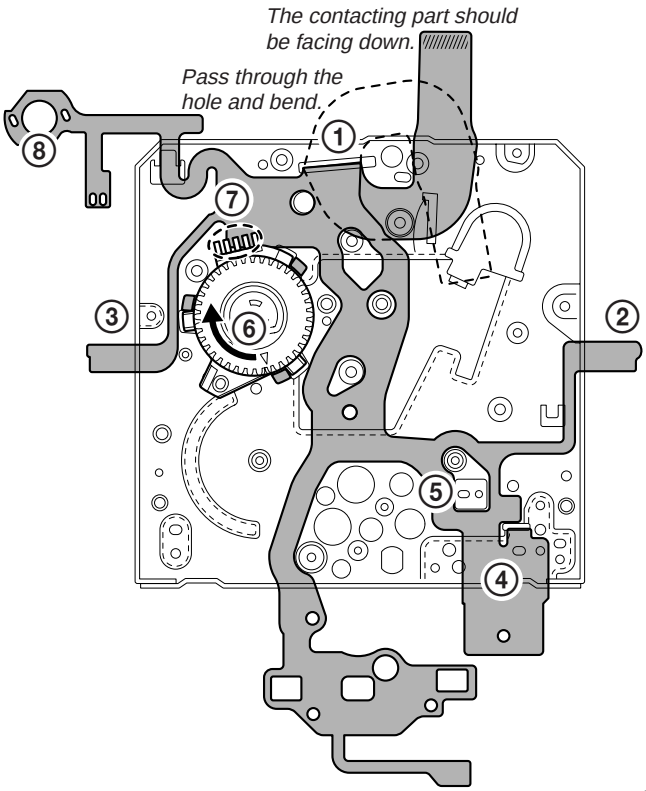
First, remove

all parts from 2-2-1 to 2-2-10

Removing method: Remove in the order of ①➡②➡③➡④➡⑤➡⑥➡⑦➡⑧.
(For details on how to remove each part, refer to the detailed diagram.)



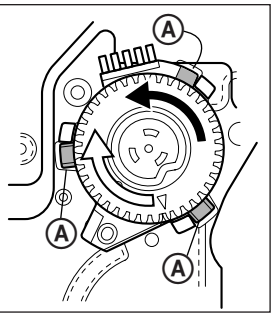
Attaching method:
Refer to the following diagram, for attaching the FP-594 flexible board, and attaching the parts in the order of ①➡②➡③➡④➡⑤➡⑥➡⑦➡⑧.
(For attaching each part, refer to each detailed diagram.)



Detailed diagram on removal and attachment of rotary encoder

Removing method:
Remove the solder, and rotate the rotary encoder in the ⬅ direction. (The three parts of part Ⓐ should be visible.)

Attaching method:
Rotate the rotary encoder in the ⇦ direction. (The three parts of part Ⓐ should be hidden.) And then solder.



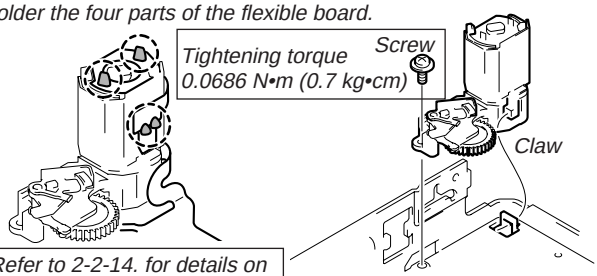
Detailed diagram on removal and attachment of L motor block assembly

Solder the four parts of the flexible board.

Tightening torque
0.0686 N•m (0.7 kg•cm)
Screw

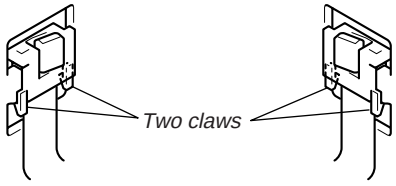
Claw

Refer to 2-2-14. for details on how to replace assemblies such as the TG1 spring hook.



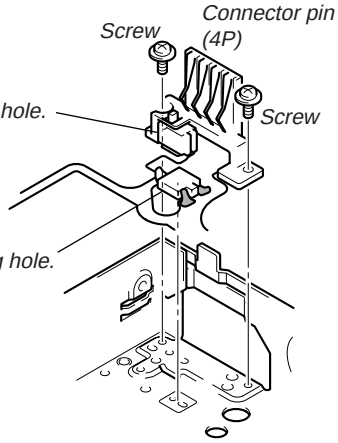
Detailed diagram on removal and attachment of sensor holder (S) / (T)

Sensor holder (S)
Sensor holder (T)
Two claws



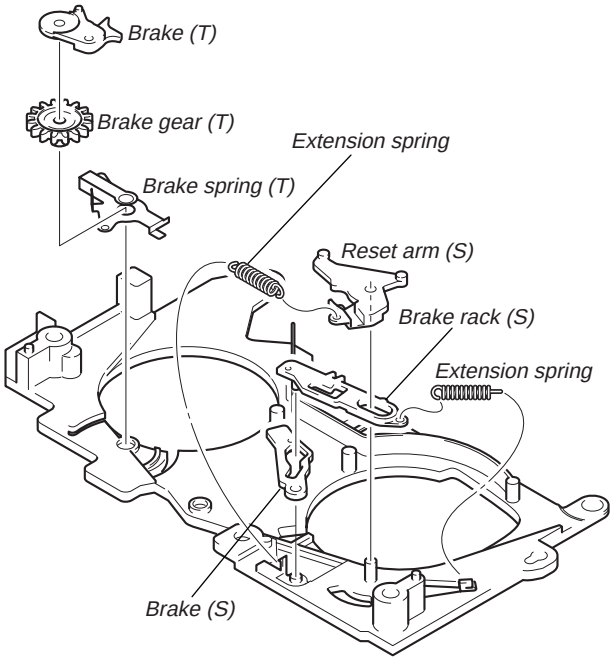
Detailed diagram on removal and attachment of Connector Pin (4P)

Screw
Connector pin
(4P)
Push switch (REC PROOF)
Should be fit to the connector hole.
Screw
Push switch (Cassette in SW)
Should be fit to the positioning hole.
Tightening torque
0.0686 N•m (0.7 kg•cm)



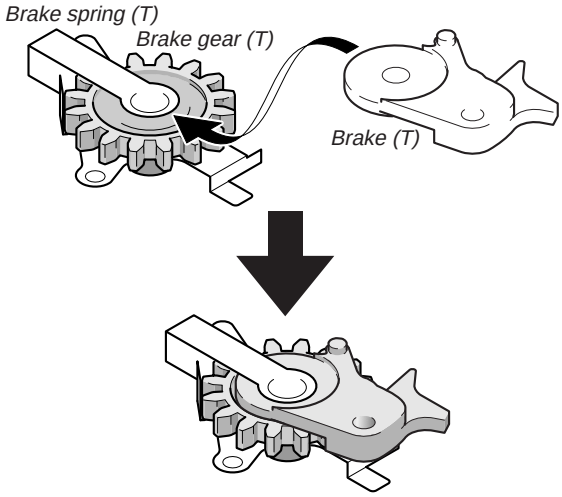
2-2-12. Reset Arm (S), Brake (S), Brake Rack (S), Brake (T), Brake Gear (T), Brake Spring (T) and Extension Spring

Removal or attaching method



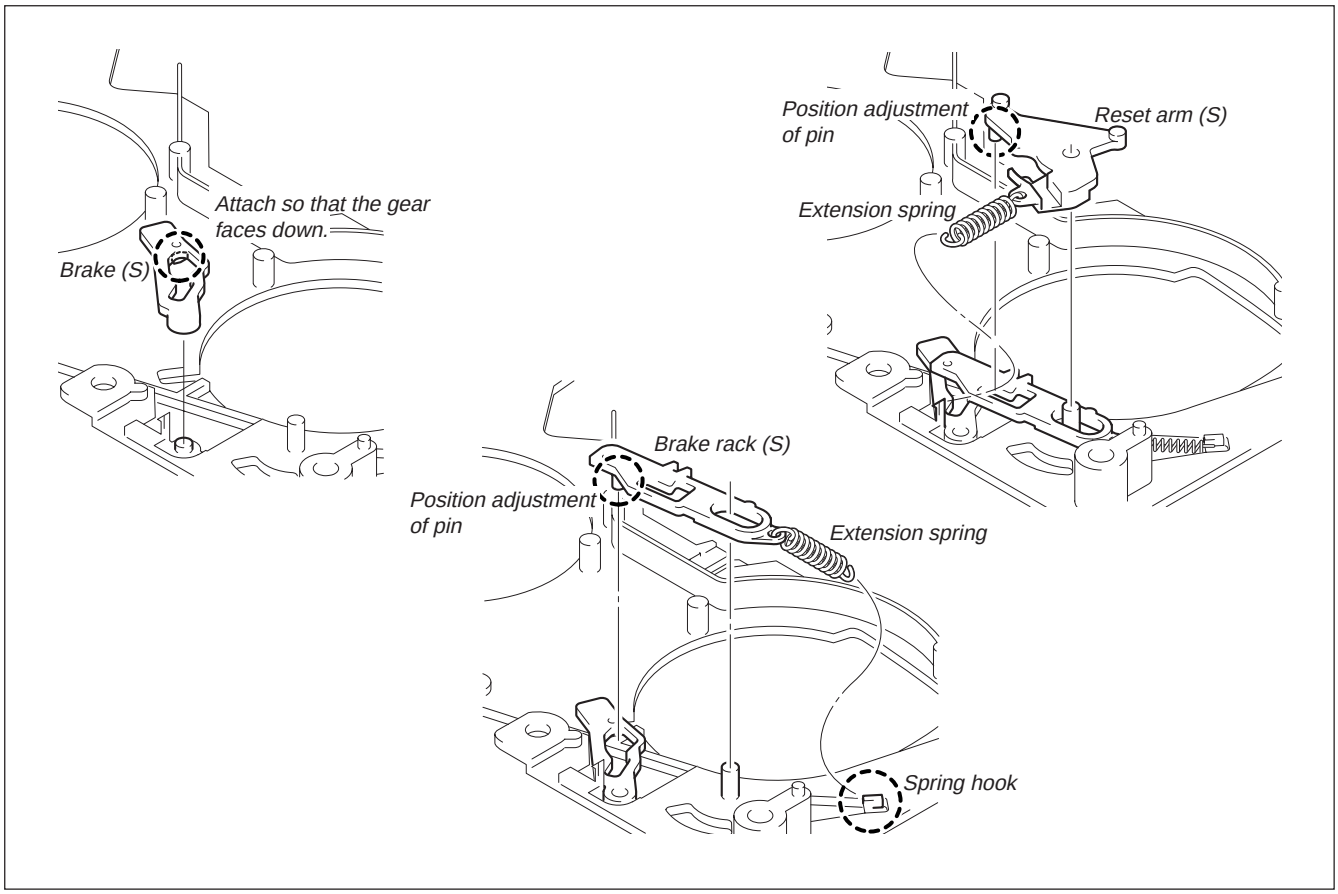
Detailed diagram on removal and attachment of brake (T), brake gear (T) and brake spring (T)

Attaching method:
Insert the brake gear (T) into the brake spring (T), and slide the brake (T) to attach. (Remove in the reverse order.)



Note: *Be careful not to deform the brake spring (T).*

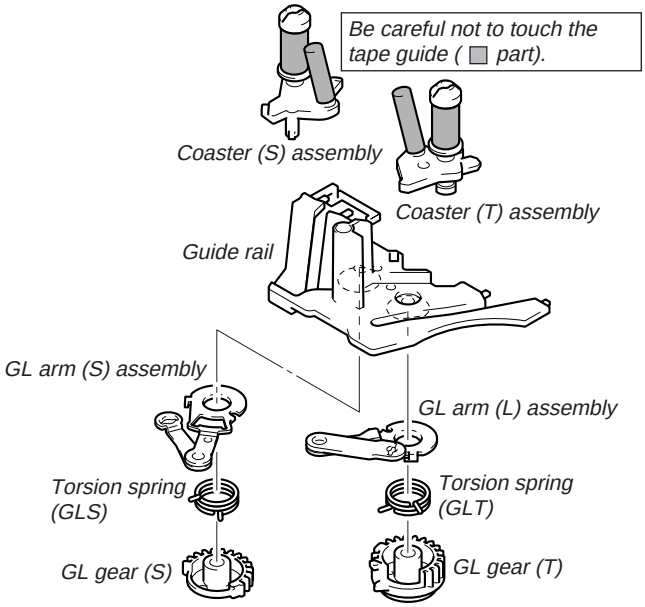
Removal and attachment of Brake (S), Brake Rack (S) and Extension Spring



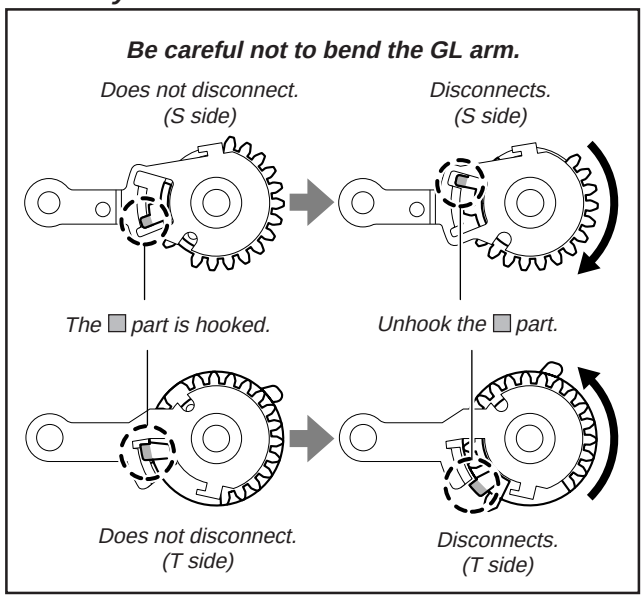
2-2-13. Coaster (S) / (T) Assembly, GL Arm (S) / (T) Assembly, Guide Rail, GL Gear (S) / (T) and Torsion Spring (GLS) / (GLT)

Removing method

• Refer to the detailed diagram on the right, and remove each part.

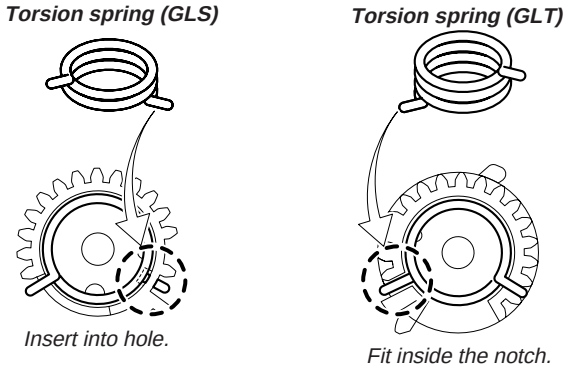


Detailed diagram on removal of GL arm (S) / (T) assembly

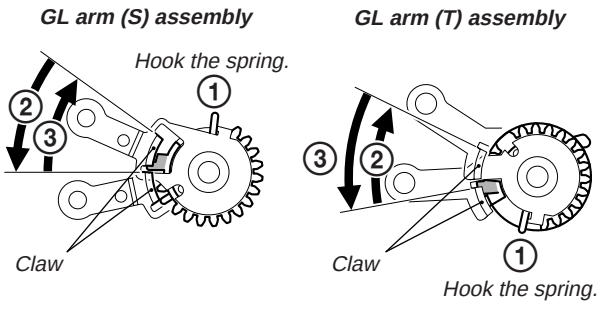

Be careful not to bend the GL arm.
Does not disconnect. (S side)
Disconnects. (S side)
The □ part is hooked.
Unhook the □ part.
Does not disconnect. (T side)
Disconnects. (T side)

Assembling the GL Block Assembly

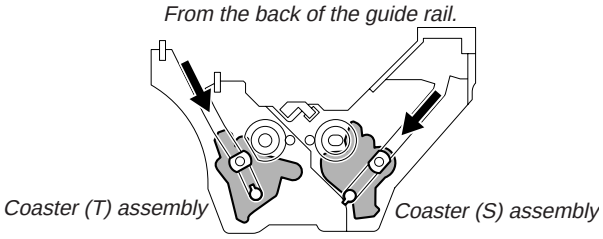
1. Attach the tension coil spring to each gear.
   To differentiate the S side and T side, the side with more coils is the T side. The S side has less coils. Face the ends of the spring towards you, the tip of the coil (lower side) is positioned at the right for the S side and at the left for the T side.



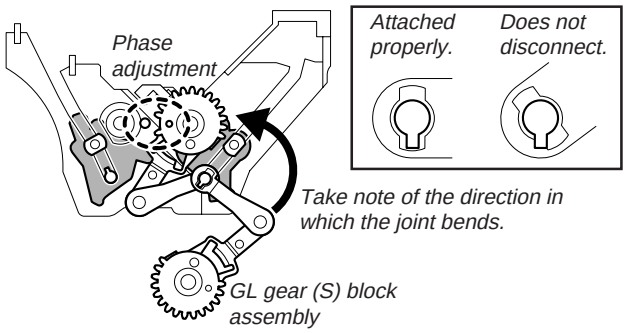
2. Hook the spring to the GL arm, and rotate in the ➡② direction until the claw of the GL arm passes over the □ part, and the □ becomes visible. When the GL arm is completely inserted, the GL arm claw will pass below the □ part by the tension of the spring (➡③).

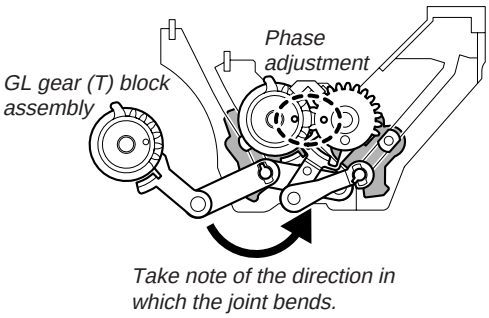


3. Attach the respective coaster assemblies.



4. Attach the GL gear block assembly in the order of the S and T sides.

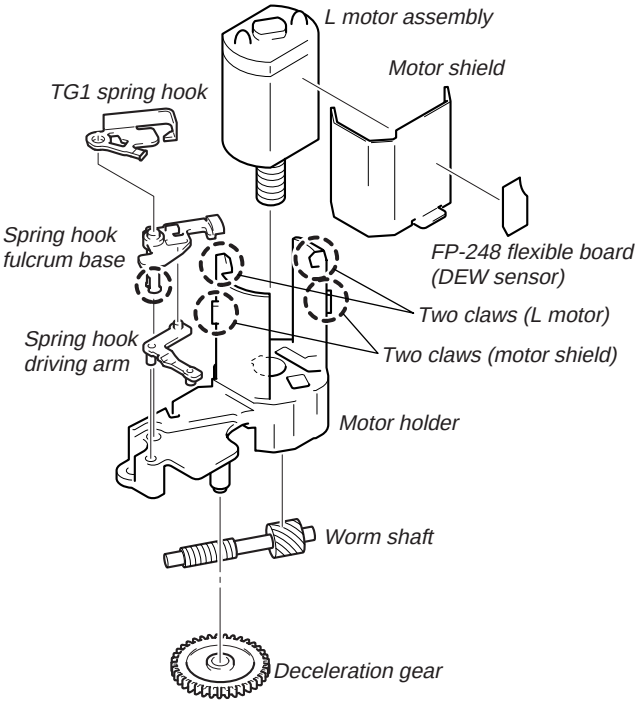

Phase adjustment
Attached properly.
Does not disconnect.
Take note of the direction in which the joint bends.
GL gear (S) block assembly



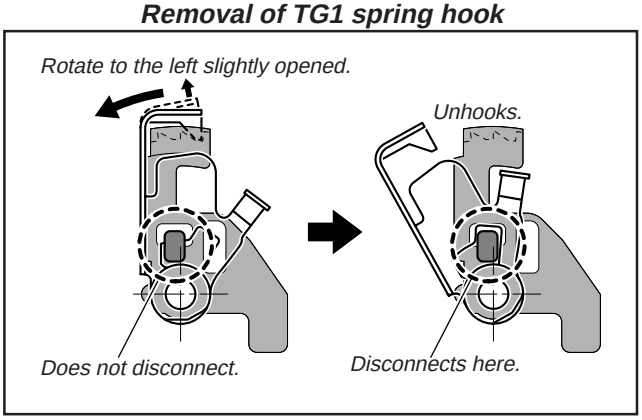
2-2-14. L Motor Assembly, Motor Shield, FP-248 Flexible Board, TG1 Spring Hook, Spring Hook Fulcrum Base, Spring Hook Driving Arm, Worm Shaft, Deceleration Gear and Motor Holder

Removing method

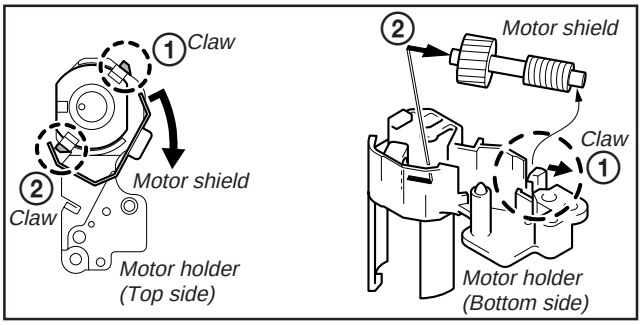
• Refer to the detailed diagram on the right, and remove each part.



Removal of TG1 spring hook

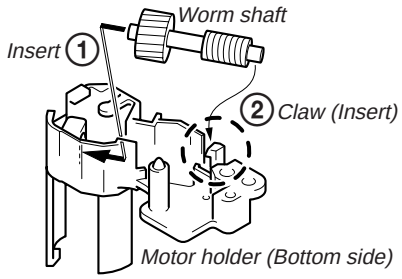


Removal of motor shield and worm shaft

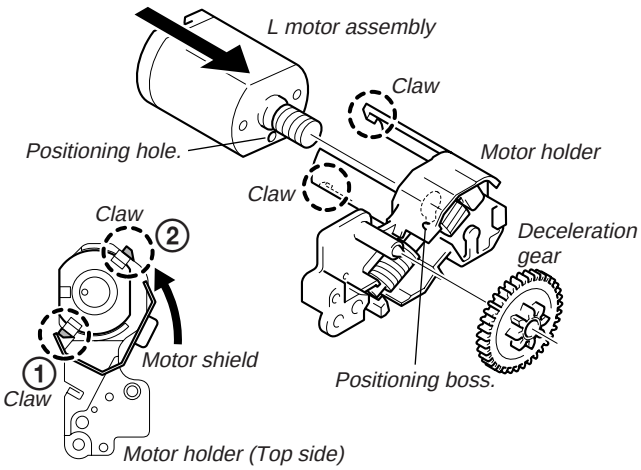


Attaching method

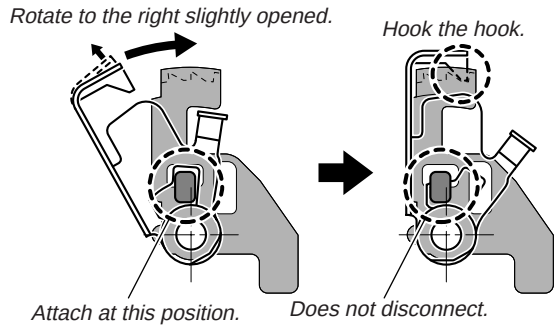
1. Attach the worm shaft.



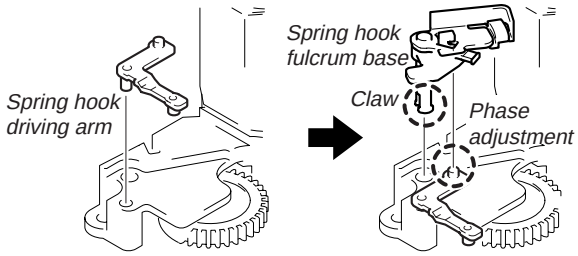
2. Attach the L motor assembly, motor shield and deceleration gear.



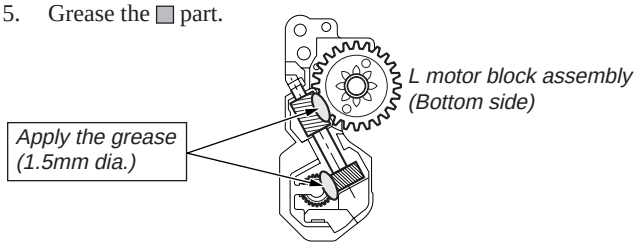
3. Attach the TG1 spring hook to the spring hook fulcrum base.



4. Attach the spring hook driving arm and spring hook fulcrum base.



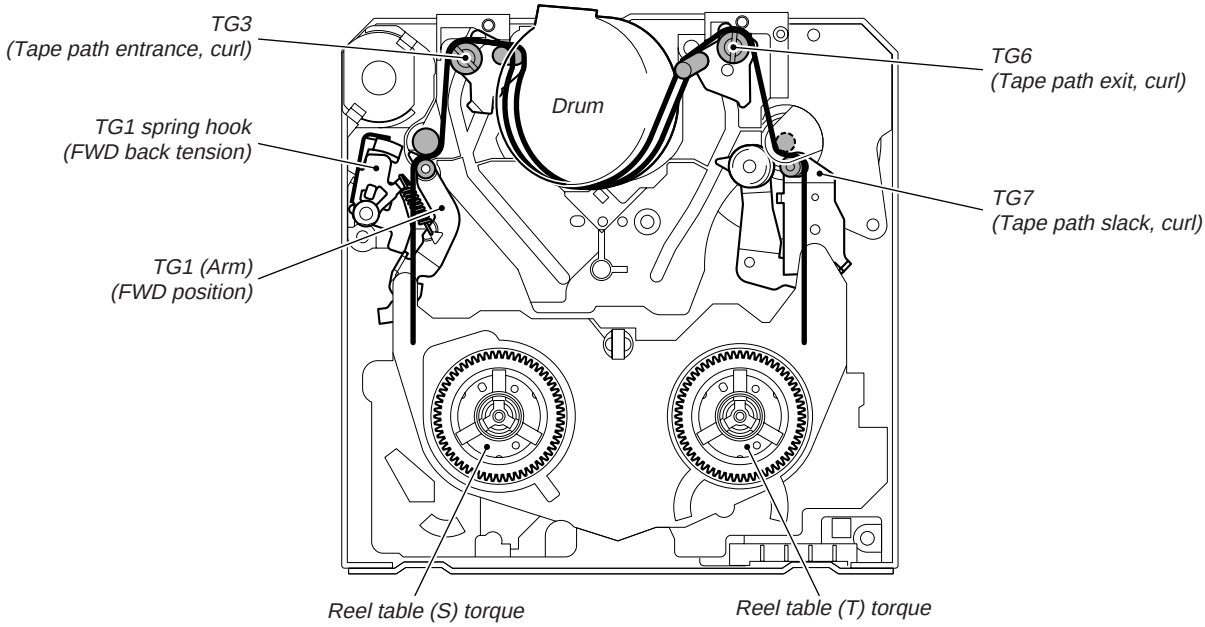
5. Grease the ■ part.



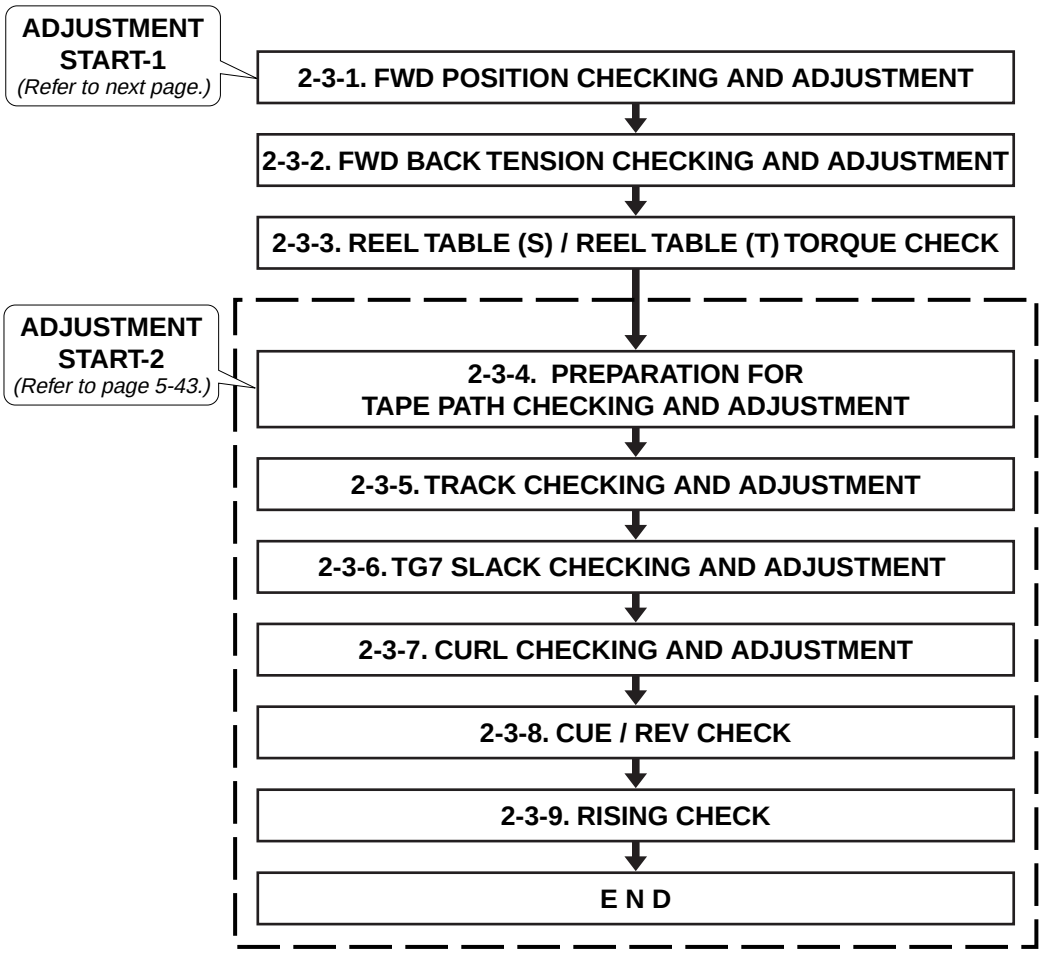
2-3. CHECK AND ADJUSTMENT

• When the parts of the tape path (tape guide and reel table, etc.) have been removed or parts have been replaced, adjust the following parts and according to the flowchart below.

• ADJUSTMENT POSITION



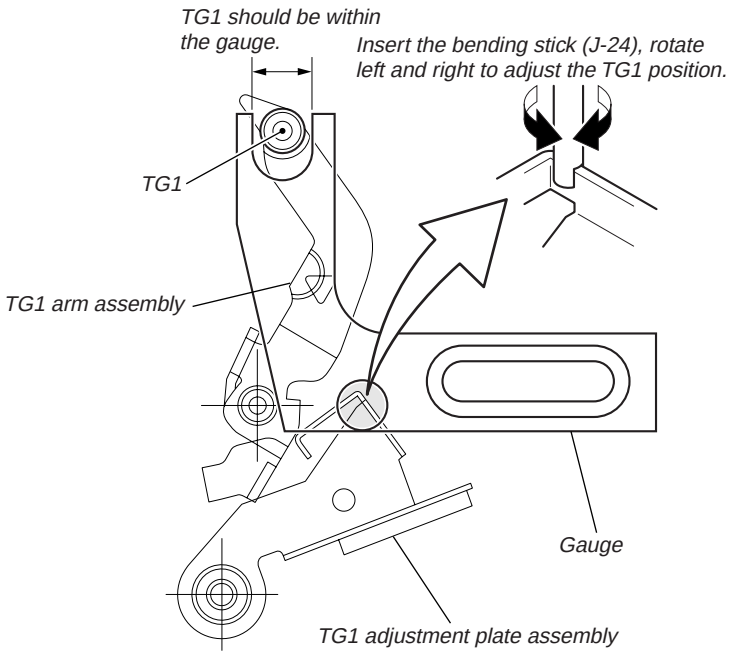
• ADJUSTMENT ORDER (Flowchart)

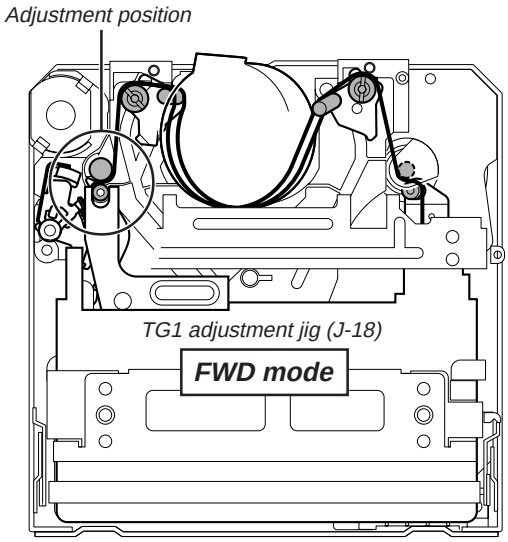

ADJUSTMENT START-1
(Refer to next page.)
2-3-1. FWD POSITION CHECKING AND ADJUSTMENT
2-3-2. FWD BACK TENSION CHECKING AND ADJUSTMENT
2-3-3. REEL TABLE (S) / REEL TABLE (T) TORQUE CHECK
ADJUSTMENT START-2
(Refer to page 5-43.)
2-3-4. PREPARATION FOR TAPE PATH CHECKING AND ADJUSTMENT
2-3-5. TRACK CHECKING AND ADJUSTMENT
2-3-6. TG7 SLACK CHECKING AND ADJUSTMENT
2-3-7. CURL CHECKING AND ADJUSTMENT
2-3-8. CUE / REV CHECK
2-3-9. RISING CHECK
E N D

2-3-1. FWD Position Checking and Adjustment

• Checking / adjusting method

Bend the TG1 adjustment plate with the bending stick (J-24) so that the TG1 flange external circumference, including fluctuation, is within the gauge range while the TG1 adjustment jig (J-18) runs in the FWD mode.

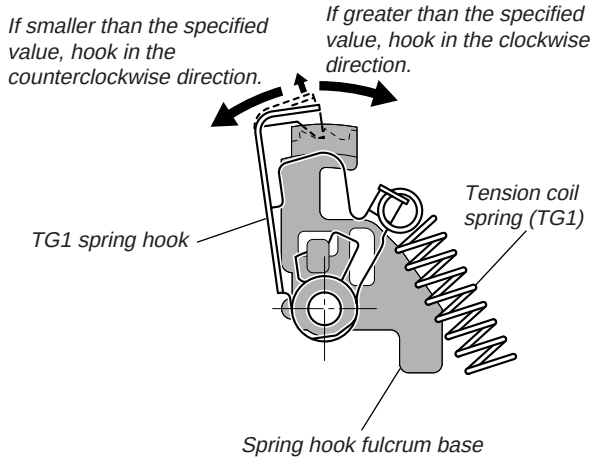

TG1 should be within the gauge.
Insert the bending stick (J-24), rotate left and right to adjust the TG1 position.
TG1
TG1 arm assembly
Gauge
TG1 adjustment plate assembly



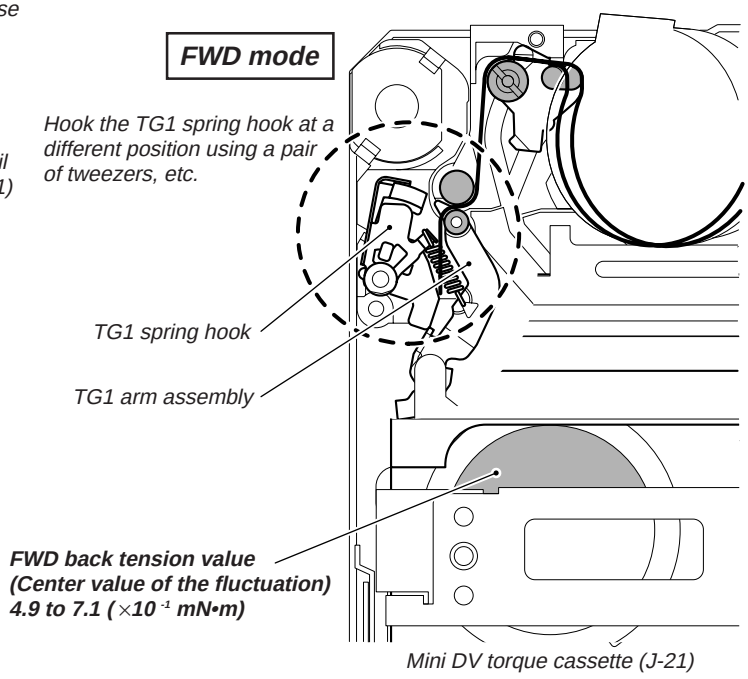
2-3-2. FWD Back Tension Checking and Adjustment

• Checking / adjusting method

Check the gauge value (reel table (S) side) of the mini DV torque cassette (J-21) in the FWD mode. Adjust the position of the TG1 spring hook so that the gauge value satisfies the specified value.
If the specified value is not satisfied, hook the TG1 spring hook claw to the middle position, and check that the FWD position is correct. If not correct, adjust the FWD position again, and check the FWD back tension again.


If smaller than the specified value, hook in the counterclockwise direction.
If greater than the specified value, hook in the clockwise direction.
TG1 spring hook
Tension coil spring (TG1)
Spring hook fulcrum base

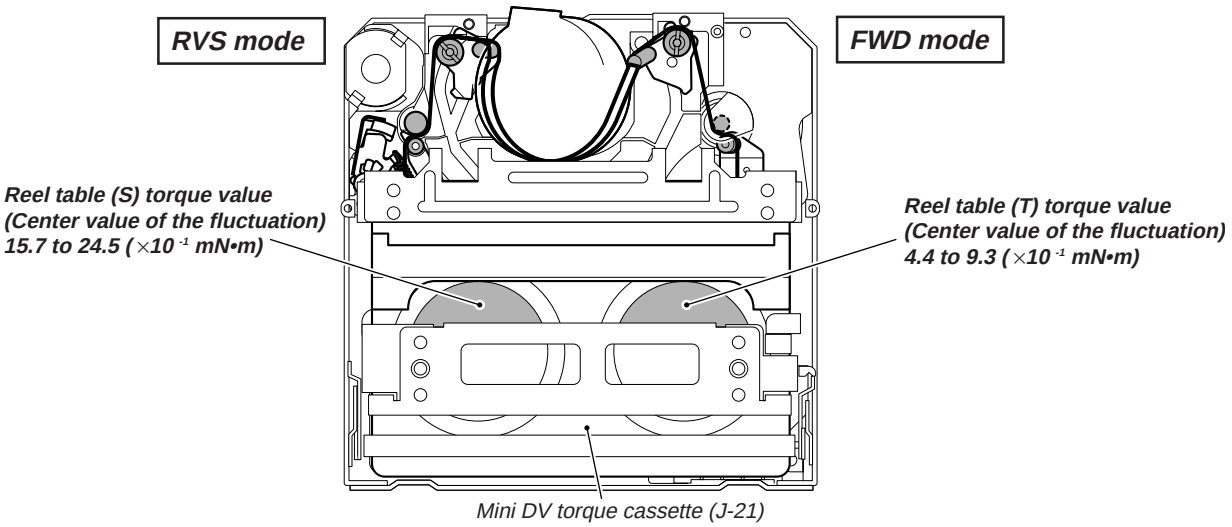
If the FWD position is correct but the specified value for the FWD back tension is not satisfied, replace the tension coil spring (TG1), and perform this adjustment again.
(For details on how to replace, refer to “2-2-6. Tension coil spring (TG1)”.)
If the fluctuations of the FWD back tension are great and the specified value is not satisfied, replace the reel table S assembly.
(For details on how to replace, refer to “2-2-4. Reel Table (S) Assembly”.)


FWD mode
Hook the TG1 spring hook at a different position using a pair of tweezers, etc.
TG1 spring hook
TG1 arm assembly
FWD back tension value
(Center value of the fluctuation)
4.9 to 7.1 (×10 -1 mN•m)
Mini DV torque cassette (J-21)

2-2-3. Reel Table (S) / Reel Table (T) Torque Check

• Checking the Reel table (S) side
Check the gauge value (reel table (S) side) of the mini DV torque cassette (J-21) in the RVS mode.

• Checking the Reel table (T) side
Check the gauge value (reel table (T) side) of the mini DV torque cassette (J-21) in the FWD mode.


RVS mode
FWD mode
Reel table (S) torque value
(Center value of the fluctuation)
15.7 to 24.5 (×10 -1 mN•m)
Reel table (T) torque value
(Center value of the fluctuation)
4.4 to 9.3 (×10 -1 mN•m)
Mini DV torque cassette (J-21)

If the specification is not satisfied, check the 4-1 FWD position, and if no problems, replace the respective reel tables, and check again.
(For details on how to replace, refer to "2-2-4. Reel Table (S) / Reel Table (T) Assemblies".)

2-3-4. Preparation for Tape Path Checking and Adjustment

• Preparations before adjustment 1 (Connection and setting)

1. Clean the tape running side.
   (Refer to "2-4-2. Cleaning of Tape Path System".)
2. Connect the adjustment remote commander (J-5) to the LANC jack.

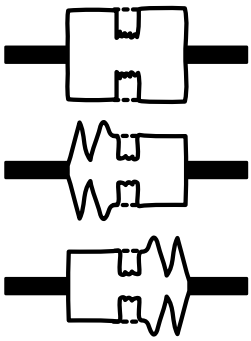
Adjustment remote commander (RM-95)

3. Turn the HOLD switch of the adjustment remote commander to the ON position.
4. Connect an oscilloscope to VI-151 board CN2904 via the CPC-8 jig (J-6082-388-A).
   Channel 1: VI-151 board, CN2904 Pin ⑳ (Note)
   External trigger: VI-151 board, CN2904 Pin ⑰
   Note: Connect a 75 Ω resistor between pins ⑳ of CN2904 and ⑱ (GND).
   75 Ω resistor (Parts code: 1-247-804-11)

CN2904 of VI-151 board

Pin No.	Signal Name	Pin No.	Signal Name
1	LANC SIG	2	EVF BL +
3	EVF BL –	4	EVF VG
5	EVF VCO	6	GND
7	PD VG	8	PD VCO
9	H START	10	XHD/PSIG
11	PANEL COM	12	TMS
13	TCK	14	TDI
15	TDO	16	GND
17	SWP	18	RF IN/LANC JACK IN
19	GND	20	RF MON

5. Playback the alignment tape for tracking (J-20). (XH2-1 exclusive)
6. Select page: 3, address: 33, and set data: 08.
7. Select page: 3, address: 26, and set data: 31.
8. Check the states at the entrance and exit of the RF waveform. If not flat at either side, perform the adjustments from "Flowchart Adjustment start-2" on page 5-40.
9. After completing the adjustment, perform "Procedure after checking operations".



Normal

Faulty entrance side

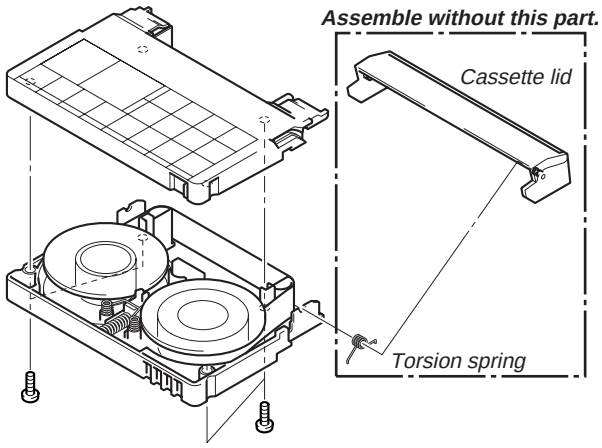
Faulty exit side

Procedure after operations

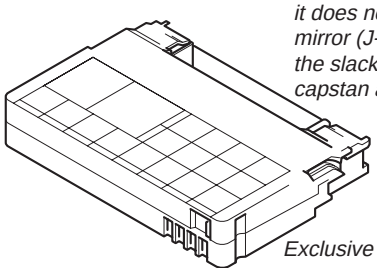
1. Connect the adjustment remote commander to the LANC jack and set the HOLD switch to the ON position.
2. Select page: 3, address: 26, and set data: 00.
3. Select page: 3, address: 33, and set data: 00.
4. Disconnect the power of the unit.

• Preparations before adjustment 2 (Preparing an exclusive tracking tape (J-20))

Remove the lid of the cassette due to the C mechanism structure.



This is to prevent the lid from rising when the damper is removed so that it does not come in the way of the mirror (J-15) inserted, when checking the slack and curl between the capstan and TG7.

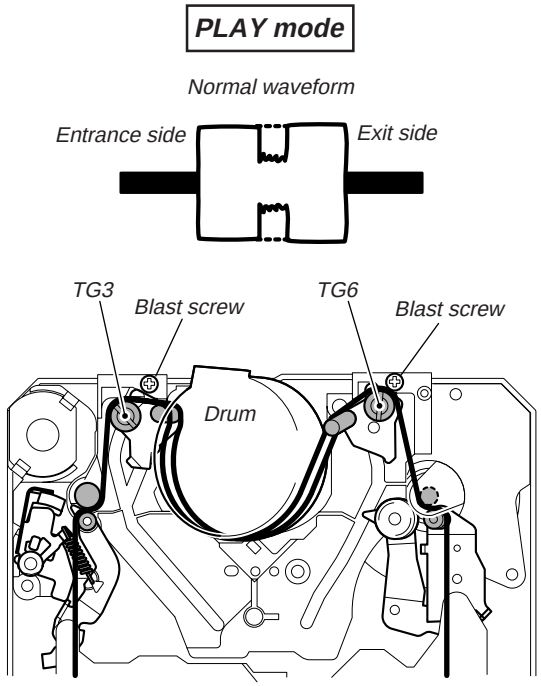


Exclusive tracking tape

2-3-5. Track Checking and Adjustment

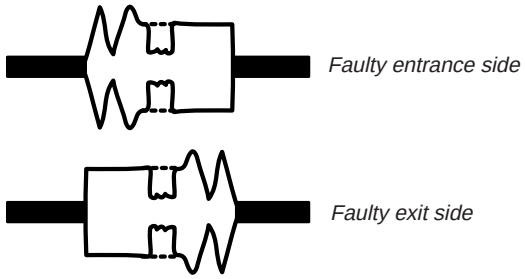
• Checking / adjusting method

Run the tracking tape (J-20) in the PLAYBACK mode, and check that the RF waveform is flat at both the entrance and exit.



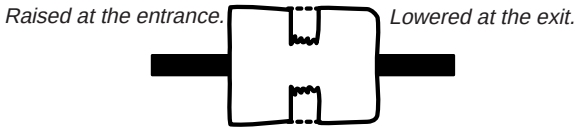
• If not flat

If the waveform at the entrance is bad, rotate TG3.
If that at the exit is bad, rotate TG6 to flatten the waveform.



• Tips for adjustment

The tape path waveform at the entrance and exit should both be flat, or that at the entrance should be slightly raised and that at the exit should be lowered. If that at the entrance is slightly lowered especially, problems such as sound drop may occur.



If the waveform does not become flat even if the guides are rotated at the entrance and exit, the characteristics may be faulty of the tracking tape with time. Check again using a new tracking tape. If the waveform still does not become flat, the coaster assembly and drum base block assembly may be faulty.
(For details on how to replace, refer to "2-2-2. Drum Base Block Assembly or 2-2-9. GL Block Assembly".)

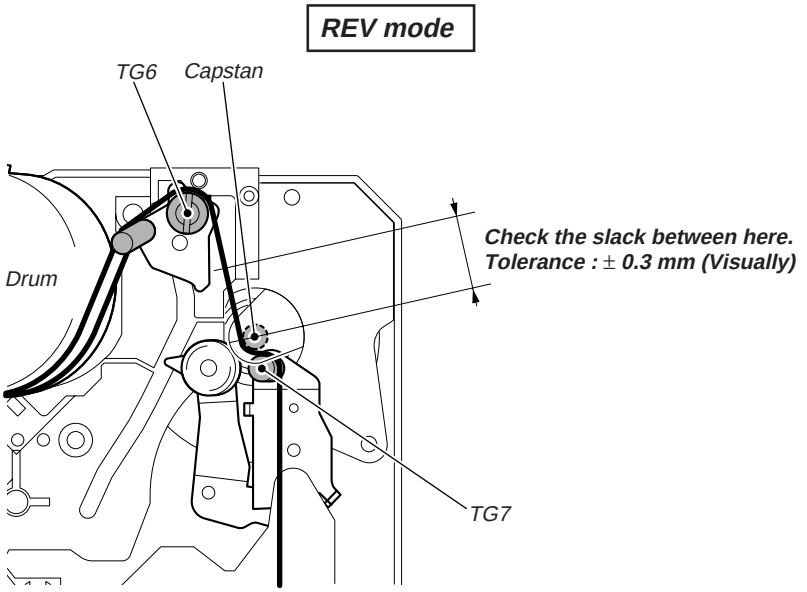
2-3-6. TG7 Slack Checking and Adjustment

• Checking / adjusting method

Run the tracking tape (J-20) in the REV mode, and visually check from right above the slack between the capstan and TG6. If the slack is great, rotate TG7 to satisfy the specified value.

• If the slack occurs

If the slack can not be corrected, the TG7 arm block assembly may be faulty.
(For details on how to replace, refer to "2-2-6. TG7 Arm Block Assembly".)



2-3-7. Curl Checking and Adjustment

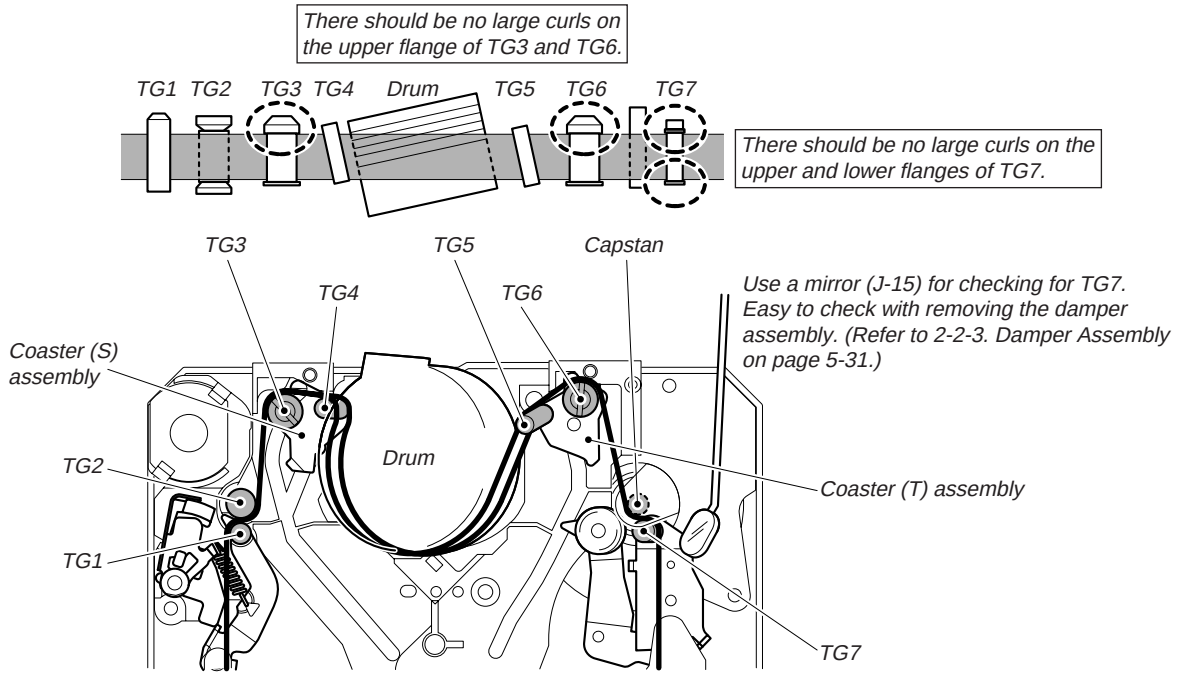
• Checking / adjusting method

Run the tracking tape (J-20) (exclusive) in the CUE mode or REV mode, and check that the tape runs along each flange.
Also check that there are no large curls on each tape guide.

• If the curl is large or there are clearances

If the TG3 curl is large or clearances exist, replace the coaster (S) assembly. If the TG6 curl is large, or clearances exist, replace the coaster (T) assembly. If curls or clearances exist on the TG7, rotate TG7 and adjust its height.

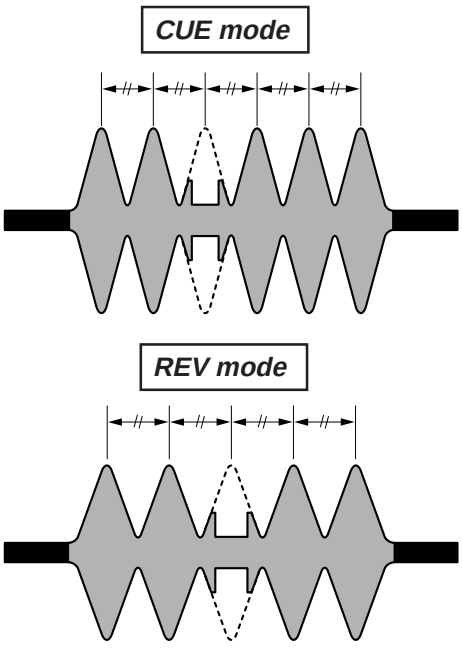
Note: Be careful not to rotate TG7 excessively.
For details on how to replace the coaster (S) / (T) assembly, refer to 2-2-13 on page 5-38.



2-3-8. CUE / REV Check

• Checking method

Run the tracking tape (J-20) in the CUE mode or REV mode, and check that the intervals of the waveform peaks are consistent.



• If not even

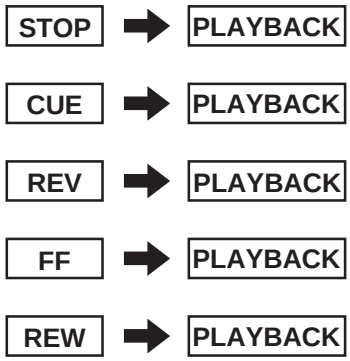
If the waveform peaks are not even, perform "Tracking adjustment" again.

2-3-9. Rising Check

• Checking method

Check that when the tracking tape (J-20) is switched from the STOP, CUE, REV, FF, REW modes to the PLAYBACK mode, the waveform rises horizontally within 2 seconds.
Perform this 2 or 3 times.

Mode changes



When switching the modes, the waveform should rise within 2 seconds 2 or 3 times.

• Check after checking rising

- Check that the tape loads and unloads smoothly.
- Play a self-recorded or already recorded tape, and check that the sound and images are normal.

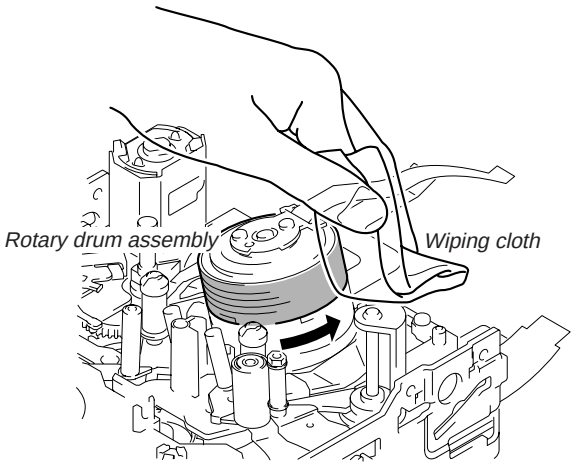
2-4. PERIODIC CHECK

• Carry out the following maintenance and periodic checks not only to fully display the functions and performance of the set, but also for the equipment and tape. After repairing, service the set as follows, regardless of the length of use.

2-4-1. Cleaning of Rotary Drum Assembly

1. Press a wiping cloth (J-13) moistened with cleaning fluid (J-12) against the rotary drum assembly gently, and clean it while rotating the rotary drum assembly slowly with your finger in the counterclockwise direction.

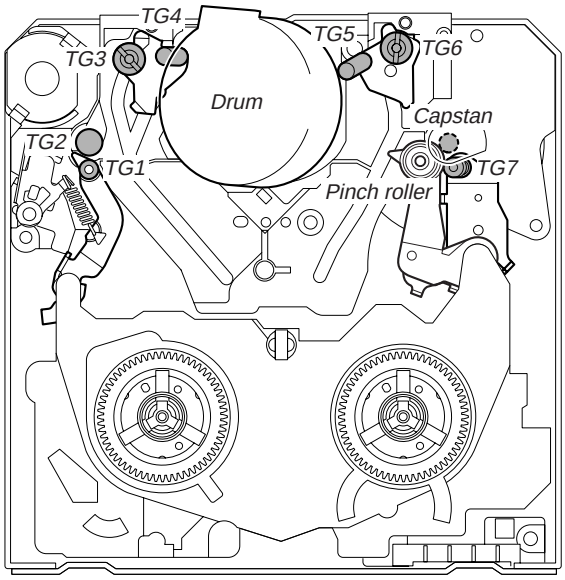
Note: Do not rotate the motor on power or rotate the rotary drum assembly in the clockwise direction with your finger. The head tip will also be damaged if the wiping cloth is moved perpendicularly against it. Therefore, be sure to follow the above instructions when cleaning the rotary drum assembly.



2-4-2. Cleaning of Tape Path System

1. Clean the tape path systems (TG1 to TG7 and capstan) and the lower drum using a super fine applicator (J-14) moistened with cleaning fluid.

Note 1: Make sure that no oil or grease of the link mechanisms sticks to the super fine applicator (J-14).
Note 2: Do not use a applicator moistened with alcohol to the other guide cleaning. But clean the pinch roller using alcohol.



2-4-3. Periodic Checks

Location of Maintenance and Check		Hours of Use (H)										Remarks
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
	Cleaning of tape path surface	○	○	○	○	○	○	○	○	○	○	
	Cleaning and degaussing of rotary drum assembly	○	○	○	○	○	○	○	○	○	○	Be careful of the oil.
Driving system	Timing belt	—	□	—	□	—	□	—	□	—	□	Make sure that no oil gets on the tape path surface.
	Capstan (Bearing)	—	□	—	□	—	□	—	□	—	□	
	Loading motor	—	□	—	□	—	□	—	□	—	□	X-3948-346-1
Performance Confirmation	Abnormal noise	□	□	□	□	□	□	□	□	□	□	
	Back tension measurement	—	□	—	□	—	□	—	□	—	□	
	Brake system	—	□	—	□	—	□	—	□	—	□	
	FWD/RVS torque measurement	—	—	—	—	—	—	—	—	—	—	

○ : Cleaning □ : Confirmation

Note 1: When overhauling, refer to the checks above and replace parts.
Note 2: Greasing
Always use the specified grease. If the viscosity differs, various problems may occur.
(Use SG-941 for all parts of the C mechanism.)
Check the quantity of grease when installing the parts which is needed to apply the grease.
• FLOIL (SG-941): Part No. 7-662-001-39

5-3. VIDEO SECTION ADJUSTMENTS

NTSC model : DSR-PD100
PAL model : DSR-PD100P

3-1. PREPARATIONS BEFORE ADJUSTMENTS

Use the following measuring instruments for video section adjustments.

3-1-1. Equipment Required

1) TV monitor
2) Oscilloscope (dual-phenomenon, band above 30 MHz with delay mode) (Unless specified otherwise, use a 10 : 1 probe.)
3) Frequency counter
4) Pattern generator with video output terminal.
5) Digital voltmeter
6) Audio generator
7) Audio level meter
8) Audio distortion meter
9) Audio attenuator
10) Regulated power supply
11) Alignment tapes
    - Tracking standard (XH2-1)
      Parts code: 8-967-997-01
    - SW/OL standard (XH2-3)
      Parts code: 8-967-997-11
    - Audio operation check for NTSC (XH5-3)
      Parts code: 8-967-997-51
    - System operation check for NTSC (XH5-5)
      Parts code: 8-967-997-61
    - BIST check for NTSC (XH5-6)
      Parts code: 8-967-997-71
    - Audio operation check for PAL (XH5-3P)
      Parts code: 8-967-997-55
    - System operation check for PAL (XH5-5P)
      Parts code: 8-967-997-66
    - BIST check for PAL (XH5-6P)
      Parts code: 8-967-997-76
12) Adjustment remote commander (J-6082-053-B)
13) CPC-8 jig (J-6082-388-A)
14) Extension cable (60P, 0.5 mm)
    For extension between the VC-208 board (CN761) and the CK-80 board (CN7208) (J-6082-431-A)
15) Extension cable (100P, 0.5 mm)
    For extension between the VC-208 board (CN900) and the VI-151 board (CN2901) (J-6082-432-A)
16) Extension cable (39P, 0.3 mm)
    For extension between the JK-163 board (CN7102) and the VI-151 board (CN2903) (J-6082-433-A)

3-1-2. Precautions on Adjusting

1) The adjustments of this unit are performed in the VTR mode or camera mode.
   To set to the VTR mode, set the power switch to "VTR" (or "PLAYER") or set the "Forced VTR Power ON mode" using the adjustment remote commander (Note 1).
   To set to the Camera mode, set the power switch to "CAMERA" or set the "Forced Camera Power ON mode" using the adjustment remote commander (Note 2).
   After completing adjustments, be sure to exit the "Forced VTR Power ON Mode" or "Forced Camera Power ON Mode". (Note 3)
2) The front panel block (MA-333 board, microphone unit, focus ring, focus switch) need not be connected except during "Battery End Adjustment", and "Audio adjustments". To remove, disconnect the following connectors.
   1. MA-333 board CN7304 (26P, 0.5 mm)
3) The viewfinder (VF-121 board, LB-55 board) and upper cabinet (LCD window, ED-48 board) are need not be connected except during "Battery End Adjustment". To remove them, disconnect the following connectors.
   1. VI-151 board CN2905 (20P, 0.5 mm)
   2. CK-80 board CN7207 (24P, 0.5 mm)
   3. CK-80 board CN7203 (5P, 0.5 mm)
4) Cabinet (R) (Camera function switch (CK-80 board), LCD block, memory card slot) need not be connected except during "Battery End Adjustment". But removing the cabinet (R) (removing the VI-151 board CN2906) means removing the lithium 3V power supply (BT7200) , data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. If the cabinet (R) has been removed, the self-diagnosis data, data on history of use (total drum rotation time etc.) will be lost. Before removing, note down the self-diagnosis data and the data on the history use (data of page: 2, address: A2 to AA). (Refer to "SELF-DIAGNOSIS FUNCTION" for the self-diagnosis data, and to "5-4.Service Mode" for the data on the history use.)
   To remove the cabinet (R) and DC IN jack, disconnect the following connectors.
   1. VI-151 board CN2906 (60P, 0.5 mm)
   2. VC-208 board CN761 (60P, 0.5 mm)
   3. VI-151 board CN3201 (3P, 1.0 mm)
5) For extension between the memory card slot(CK-80 board CN7208) and VC-208 board (CN761), use the following extension cable.
   J-6082-431-A (60P, 0.5 mm)
6) The lens block (CD-202 board) need not be connected except during "Battery End Adjustment". To remove, disconnect the following connectors.
   1. VC-208 board CN200 (40P, 0.5 mm)
   2. VC-208 board CN351 (8P, 0.5 mm)
   3. VC-208 board CN500 (26P, 0.5 mm)
7) SE-75 board need not be connected except during "Battery End Adjustment". To remove, disconnect the following connectors.
   VC-208 board CN400 (6P, 0.5 mm)
8) When opening the VC-208 board, use the following extension cable between the VC-208 board CN900 and VI-151 board CN2901.
   J-6082-432-A (100P, 0.5 mm)
9) When opening the cabinet (L), use the following extension cable between the JK-163 board CN7102 and VI-151 board CN2903.
   J-6082-433-A (39P, 0.3 mm)

Note 1: Setting the "Forced VTR Power ON" mode (VTR mode)
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 02, and press the PAUSE button of the adjustment remote commander.
The above procedure will enable the VTR power to be turned on with the power switch block (FK-4880) removed.
After completing adjustments, be sure to exit the "Forced Power ON mode".

Note 2: Setting the "Forced Camera Power ON" mode (Camera mode)
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjustment remote commander.
The above procedure will enable the camera power to be turned on with the power switch block (FK-4880) removed.
After completing adjustments, be sure to exit the "Forced Power ON mode".

Note 3: Setting the "Forced Memory Power ON" mode (Memory mode)
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 05, and press the PAUSE button of the adjustment remote commander.
The above procedure will enable the memory power to be turned on with the power switch block (FK-4880) removed.
After completing adjustments, be sure to exit the "Forced Power ON mode".

Note 4: Exiting the "Forced Power ON" mode
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
3) Select page: 0, address: 01, and set data: 00.

3-1-3. How to Enter Record Mode Without Cassette

1) Connect the adjustment remote commander to the LANC jack.
2) Turn the HOLD switch of the adjustment remote commander to the ON position.
3) Close the cassette compartment without the cassette.
4) Select page: 3, address: 01, set data: 0C, and press the PAUSE button of the adjustment remote commander.
   (The mechanism enters the record mode automatically.)
   Note: The function buttons become inoperable.
5) To quit the record mode, select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander. (Whenever you want to quit the record mode, be sure to quit following this procedure.)

3-1-4. How to Enter Playback Mode Without Cassette

1) Connect the adjustment remote commander to the LANC jack.
2) Turn the HOLD switch of the adjustment remote commander to the ON position.
3) Close the cassette compartment without the cassette.
4) Select page: 3, address: 01, set data: 0B, and press the PAUSE button of the adjustment remote commander.
   (The mechanism enters the record mode automatically.)
   Note: The function buttons become inoperable.
5) To quit the playback mode, select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander. (Whenever you want to quit the playback mode, be sure to quit following this procedure.)

3-1-5. Adjusting Connectors

Some of the adjusting points of the video section are concentrated at VI-151 board CN2904. Connect the measuring instruments via the CPC-8 jig (J-6082-388-A). The following table lists the pin numbers and signal names of CN2904.

Pin No.	Signal Name	Pin No.	Signal Name
1	LACN SIG	2	EVF BL+
3	EVF BL–	4	EVF VG
5	EVF VCO	6	GND
7	PD VG	8	PD VCO
9	H START	10	XHD/PSIG
11	PANEL COM	12	TMS
13	TCK	14	TDI
15	TDO	16	GND
17	SWP	18	RF IN/LANC JACK IN
19	GND	20	RF MON

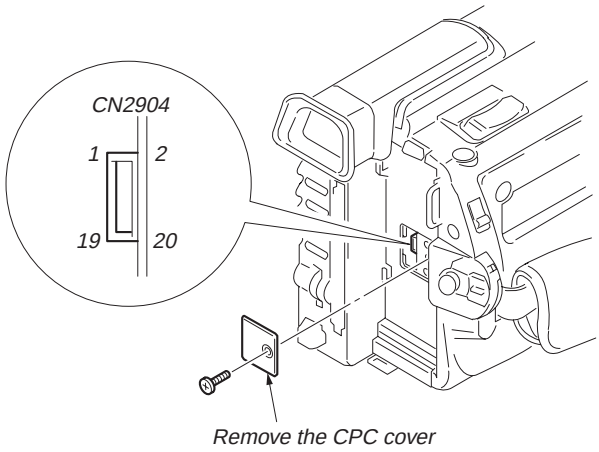


Fig. 5-3-1

3-1-6. Connecting the Equipment

Connect the measuring instruments as shown in Fig. 5-3-2, and perform the adjustments.

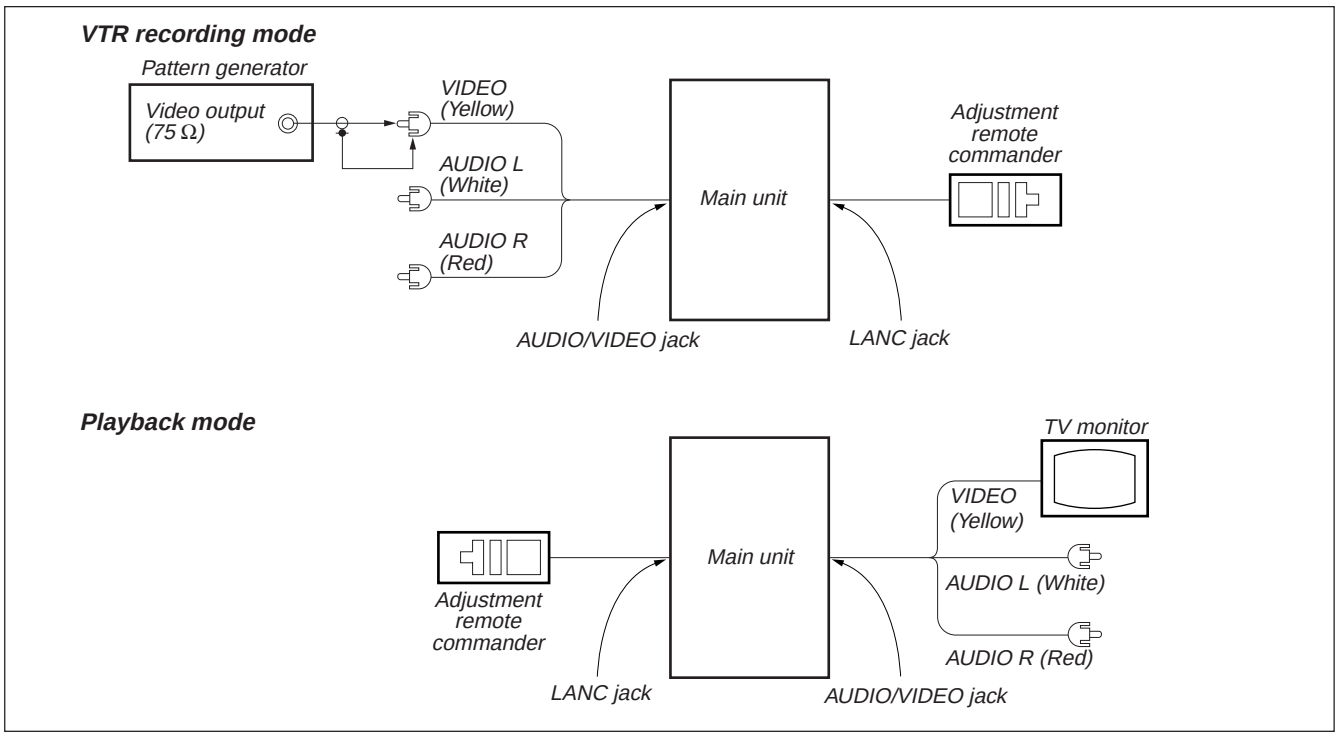


Fig. 5-3-2

3-1-7. Checking the Input Signals

Because the video signal obtained from the pattern generator is used as the adjustment signal for adjusting the VTR section, the video output signal must satisfy the given specifications.

Connect the oscilloscope to the video terminal of the AUDIO/VIDEO jack, and check that the sync signal amplitude of the video signal is approximately <0.286 V> [0.30 V], the amplitude of the video section is approximately <0.714> [0.70 V], the amplitude of the burst signal is approximately <0.286> [0.30 V] and flat, and that the level ratio of the burst signal to the "red" signal is 0.30 : 0.60.

The video signal used for adjusting the video section is shown in Fig. 5-3-3.

< > : NTSC model

[ ] : PAL model

3-1-8. Alignment Tapes

Use the alignment tapes shown in the following table.
Use tapes specified in the signal column of each adjustment.

Name	Use
Tracking standard (XH2-1)	Tape path adjustment
SW/OL standard (XH2-3)	Switching position adjustment
Audio operation check (XH5-3 (NTSC), XH5-3P (PAL))	Audio system adjustment
System operation check (XH5-5 (NTSC), XH5-5P (PAL))	Operation check
BIST check (XH5-6 (NTSC), XH5-6P (PAL))	BIST check

Fig. 5-3-3 shows the 75% color bar signals recorded on the alignment tape for Audio Operation Check.

Note: Measure with video terminal (Terminated at 75 Ω)

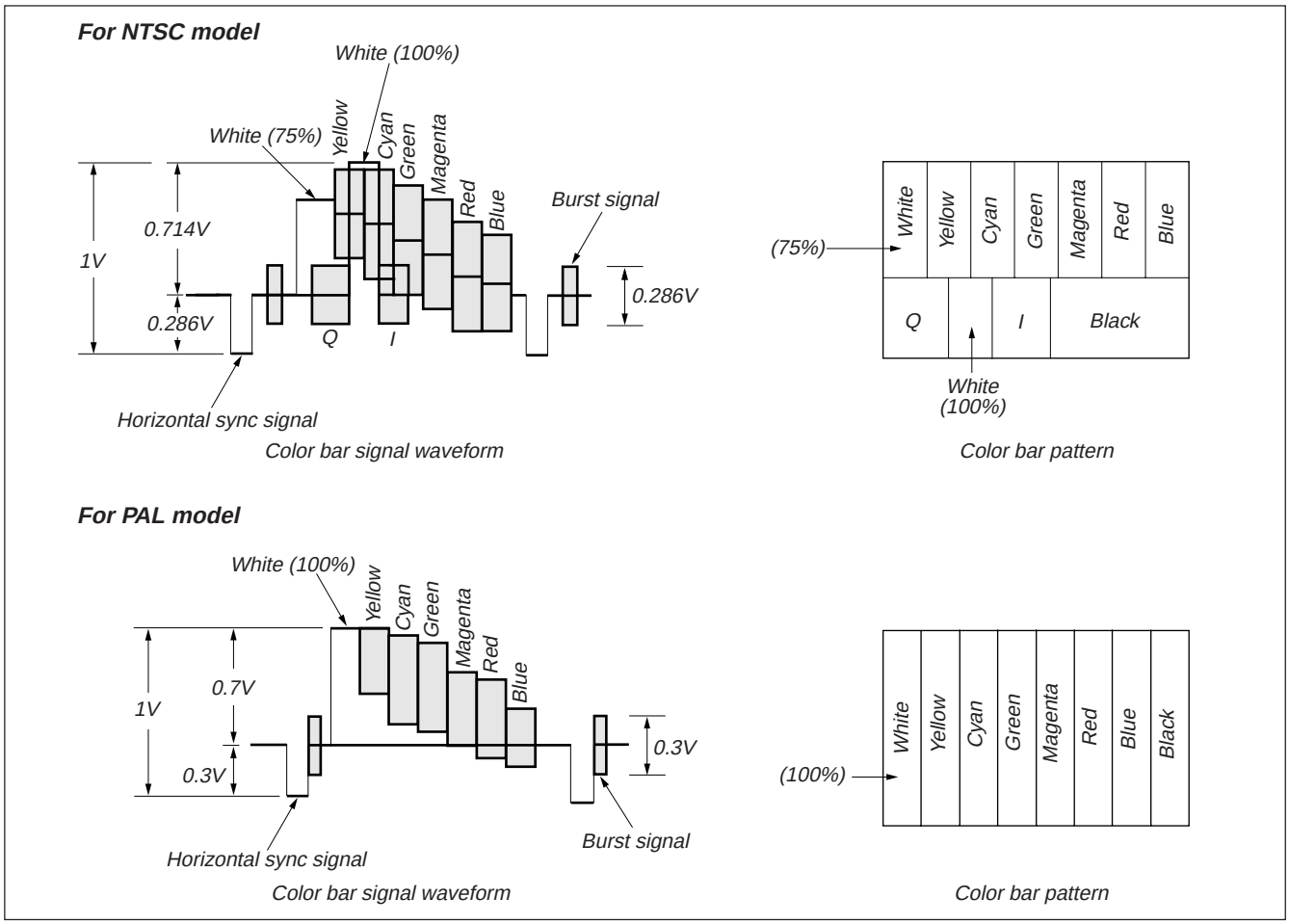


Fig. 5-3-3 Color bar signal of alignment tapes

3-1-9. Input/Output Level and Impedance

Video input/output
- Special stereo mini jack
- Video signal: 1 Vp-p, 75 Ω unbalanced, sync negative

S video input/output
- 4-pin mini DIN
- Luminance signal: 1 Vp-p, 75 Ω unbalanced, sync negative
- Chrominance signal: 0.286 Vp-p, 75 Ω unbalanced (NTSC)
  : 0.300 Vp-p, 75 Ω unbalanced (PAL)

Audio input/output
- Special stereo mini jack
- Input level: 327 mV
- Input impedance: More than 47 kW
- Output level: 327 mV (at load impedance 47 kΩ)
- Output impedance: Below 2.2 kΩ

3-2. INITIALIZATION OF B, C, D PAGE DATA

1. Initializing the C Page Data

Note: If the page C data is initialized, the following adjustments must be performed again.
1) Modification of C page data
2) Servo system, RF system adjustments

Adjusting page	C
Adjusting Address	00 to DF

Initializing Method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 80, set data: 0C, and press the PAUSE button of the adjustment remote commander.
3) Check that the data of page: 3, address: 80 is changed to "1C".
4) Perform "Modification of C Page Data".

2. Modification of C Page Data

If the C Page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note: If copy the data built in the different model, the camcorder may not operate.
3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification of C Page data

1) Select page: 2, address: 00, and set data: 29.
2) Select page: 2, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.
3) Perform the "Servo System, RF System Adjustments".

3. C Page Table

Note: Fixed data-1: Initialized data. (Refer to "1. Initializing the C Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of C PAGE Data")

Address	Initial value		Remark
	NTSC	PAL	
00			Fixed data-1
01			(Initialized data)
02			
03			
04			
05			
06			
07			
08			
09			
0A			
0B			
0C			
0D			
0E			Fixed data-1
0F			(Initialized data)
10	EE	EE	Switching position adj.
11	00	00	
12	EE	EE	
13	00	00	
14			Fixed data-1
15			
16	E0	E0	Cap FG duty adj.
17	E0	E0	T reel FG duty adj.
18	2A	2A	AEQ adj.
19	2A	2A	
1A			Fixed data-1
1B	33	33	AEQ adj.
1C	33	33	
1D			Fixed data-1
1E	25	25	AGC center level adj.
1F	3E	3E	PLL f_0 adj.
20	3E	3E	
21	DC	DC	APC adj.
22	99	99	LPF f_0 adj.
23			Fixed data-1
24			
25	88	88	S VIDEO out Y level adj.
26	E3	E3	S VIDEO out Cr level adj.
27	A1	A1	S VIDEO out Cb level adj.
28			Fixed data-1
29			
2A			
2B	04	04	Chroma BPF adj.
2C			Fixed data-2
2D			Fixed data-1
2E			Fixed data-2
2F			(Modified data, copy the data built in
30			the same model.)
31			
32			Fixed data-1
33			
34			Fixed data-2
35			Fixed data-1
36			
37			
38	00	00	Emergency memory address
39	00	00	
3A	00	00	
3B	00	00	
3C	00	00	
3D	00	00	
3E	00	00	
3F	00	00	
40	00	00	
41	00	00	
42	00	00	
43	00	00	
44			Fixed data-1

Address	Initial value		Remark
	NTSC	PAL	
45			Fixed data-1
46			
47	20	20	PLL f_0 final adj.
48			Fixed data-1
49			(Initialized data)
4A			
4B			
4C			
4D			
4E			
4F			
50			Fixed data-2
51			Fixed data-1
52			
53			
54			
55			
56			
57			
58			
59			
5A			
5B			
5C			
5D			
5E			
5F			
60			Fixed data-2
61			
62			Fixed data-1
63			(Initialized data)
64			
65			
66			
67			
68			
69			
6A			
6B			
6C			
6D			
6E			
6F			Fixed data-2
70			Fixed data-1
71			(Initialized data)
72			Fixed data-2
73	03	03	APC adj.
74			Fixed data-1
75			(Initialized data)
76			
77			Fixed data-2
78			Fixed data-1
79			(Initialized data)
7A			
7B			
7C			

Address	Initial value		Remark
	NTSC	PAL	
7D			Fixed data-1
7E			(Initialized data)
7F			
80			Fixed data-2
81			Fixed data-1
82			(Initialized data)
83			
84			
85			
86			
87			Fixed data-2
88			
89			
8A			
8B			Fixed data-1
8C			(Initialized data)
8D			Fixed data-2
8E			
8F			Fixed data-1
90			(Initialized data)
91			
92			
93			
94			
95			
96			
97			
98			
99			
9A			
9B			
9C			
9D			
9E			
9F			
A0			
A1			
A2			
A3			Fixed data-2
A4			Fixed data-1
A5			(Initialized data)
A6			
A7			
A8			
A9			
AA	80	80	PLL adj.
AB			Fixed data-1
AC			
AD			Fixed data-2
AE			Fixed data-1
AF			
B0			
B1			Fixed data-2
B2			
B3			
B4			

Address	Initial value		Remark
	NTSC	PAL	
B5			Fixed data-2
B6			
B7			Fixed data-1
B8			Fixed data-2
B9			Fixed data-1
BA			(Initialized data)
BB			
BC			Fixed data-2
BD			
BE			
BF			Fixed data-1
C0			(Initialized data)
C1			
C2			
C3			
C4			
C5			
C6			
C7			
C8			
C9			
CA			
CB			
CC			
CD			
CE			
CF			
D0			
D1			
D2			
D3			
D4			
D5			
D6			
D7			
D8			
D9			
DA			
DB			
DC			
DD			
DE			
DF			
E0 to FF			

Table. 5-3-2

4. Initializing the D Page Data

Note: If the D page data is initialized, the following adjustments must be performed again.
1) Modification of D page data
2) Video system adjustments
3) Color electronic viewfinder system adjustments
4) LCD system adjustments
5) Battery end adjustment

Adjusting page	D
Adjusting Address	10 to 8F

Initializing Method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 80, set data: 0D, and press the PAUSE button.
3) Check that the data of page: 3, address: 80 is changed to "1D".
4) Perform "Modification of D Page Data".

5. Modification of D Page Data

If the D Page data has been initialized, change the data of the "Fixed data-2" address shown in the following tables by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note: If copy the data built in the different model, the camcorder may not operate.
3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification of D Page data

1) Select page: 2, address: 00, and set data: 29.
2) Select page: 2, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.
3) Perform the following adjustments.
   1) Video system adjustments
   2) Color electronic viewfinder system adjustments
   3) LCD system adjustments
   4) Battery end adjustment

6. D Page Table

Note: Fixed data-1: Initialized data. (Refer to "4. Initializing the D Page Data")
Fixed data-2: Modified data. (Refer to "5. Modification of D PAGE Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 0F			
10	00	00	Test mode
11			Fixed data-1
12			(Initialized data)
13			Fixed data-2
14			(Modified data, copy the data built in
15			the same model.)
16			Fixed data-1
17			(Initialized data)
18			Fixed data-2

Address	Initial value		Remark
	NTSC	PAL	
19			Fixed data-2
1A			Fixed data-1
1B			(Initialized data)
1C			Fixed data-2
1D			Fixed data-1
1E			
1F			
20			Fixed data-2
21			Fixed data-1
22			
23			
24			Fixed data-2
25			
26			Fixed data-1
27			Fixed data-2
28			
29			Fixed data-1
2A			Fixed data-2
2B			(Modified data, copy the data built in
2C			the same model.)
2D			
2E			Fixed data-1
2F			
30	9D	90	Battery end adj.
31	97	97	
32	A9	A9	
33	AD	AD	
34	B5	B5	
35			Fixed data-2
36			
37			Fixed data-1
38			
39			Fixed data-2
3A			
3B			
3C			Fixed data-1
3D			Fixed data-2
3E			(Modified data, copy the data built in
3F			the same model.)
40			
41			Fixed data-1
42			Fixed data-2
43			Fixed data-1
44			Fixed data-2
45			Fixed data-1
46			
47			
48			
49			Fixed data-2
4A			Fixed data-1
4B			Fixed data-2
4C			Fixed data-1
4D			Fixed data-2
4E			
4F			
50			Fixed data-1

Address	Initial value		Remark
	NTSC	PAL	
51			Fixed data-1
52			
53			
54			
55			
56			
57			
58			
59			
5A			
5B			
5C			
5D			
5E			
5F			
60			
61			
62			
63			
64			Fixed data-2
65			
66			Fixed data-1
67			(Initialized data)
68			
69			
6A			Fixed data-2
6B			
6C			
6D			Fixed data-1
6E			Fixed data-2
6F			
70			
71	80	80	White balance adj. (EVF)
72	80	80	
73			Fixed data-2
74			Fixed data-1
75	80	80	VCO adj. (EVF)
76	B0	B0	Backlight consumption current adj. (EVF)
77			Fixed data-1
78			Fixed data-2
79			Fixed data-1
7A	98	98	Bright adj. (EVF)
7B	80	80	Contrast adj. (EVF)
7C			Fixed data-2
7D			
7E			Fixed data-1
7F			
80	A0	A0	White balance adj. (LCD)
81	70	70	
82	C8	C8	D range adj. (LCD)
83	94	94	V-COM level adj. (LCD)
84	90	90	VCO adj. (LCD)
85	5A	5A	V-COM adj. (LCD)
86			Fixed data-1
87			
88			

Address	Initial value		Remark
	NTSC	PAL	
89			Fixed data-1
8A	58	58	Bright adj. (LCD)
8B			Fixed data-2
8C	62	62	Contrast adj. (LCD)
8D			Fixed data-2
8E			Fixed data-1
8F			
90 to FF			

Table. 5-3-3

7. Initializing the B Page Data

Note: If the B page data is initialized, the following adjustments must be performed again.
1) Modification of B page data

Adjusting page	B
Adjusting Address	00 to DF

Initializing Method:

1) Set the power switch to the MEMORY position.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 2, address: 8F, set data: 03, and press the PAUSE button.
4) Select page: 2, address: 8F, set data: 00, and press the PAUSE button.
5) Select page: 5, address: 01, set data: F3, and press the PAUSE button.
6) Select page: 5, address: 00, set data: 01, and press the PAUSE button.
7) Select page: 5, address: 02, and check that the data is “00”.
8) Perform “Modification of B Page Data”.

8. Modification of B Page Data

If the B Page data has been initialized, change the data of the “Fixed data-2” address shown in the following tables by manual input.

Processing before Modification of B Page data

1) Select page: 2, address: 8F, set data: 03, and press the PAUSE button.
2) Select page: 2, address: 8F, set data: 00, and press the PAUSE button .

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note: If copy the data built in the different model, the camcorder may not operate.
3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.

Processing after Completing Modification of B Page data

1) Select page: 2, address: 00, and set data: 29.
2) Select page: 2, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.

9. B Page Table

Note: Fixed data-1: Initialized data. (Refer to “7. Initializing the B Page Data”)
Fixed data-2: Modified data. (Refer to “8. Modification of B PAGE Data”)

Address	Remark
00	Fixed data-1
01	(Initialized data)
02	
03	
04	
05	
06	
07	
08	
09	
0A	
0B	
0C	
0D	
0E	
0F	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
1A	
1B	
1C	
1D	
1E	
1F	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
2A	
2B	
2C	
2D	
2E	
2F	
30	
31	
32	

Address	Remark
33	Fixed data-1
34	(Initialized data)
35	
36	
37	
38	
39	
3A	
3B	
3C	
3D	
3E	
3F	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
4A	
4B	
4C	
4D	
4E	
4F	
50	
51	
52	
53	
54	
55	
56	
57	
58	Fixed data-2
59	Fixed data-1
5A	
5B	
5C	Fixed data-2
5D	Fixed data-1
5E	Fixed data-2
5F	
60	Fixed data-1
61	(Initialized data)
62	
63	
64	
65	
66	
67	
68	Fixed data-2
69	Fixed data-1
6A	(Initialized data)

Address	Remark
6B	Fixed data-1
6C	(Initialized data)
6D	Fixed data-2
6E	Fixed data-1
6F	Fixed data-2
70	(Modified data, copy the data built in the same
71	model.)
72	Fixed data-1
73	(Initialized data)
74	
75	
76	
77	
78	
79	
7A	
7B	
7C	
7D	
7E	
7F	
80	
81	
82	
83	
84	
85	
86	
87	
88	
89	
8A	
8B	
8C	
8D	
8E	
8F	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
9A	
9B	
9C	
9D	
9E	
9F	
A0	
A1	
A2	

Address	Remark
A3	Fixed data-1
A4	(Initialized data)
A5	
A6	
A7	
A8	
A9	
AA	
AB	
AC	
AD	
AE	
AF	
B0	
B1	
B2	
B3	
B4	
B5	
B6	
B7	
B8	
B9	
BA	
BB	
BC	
BD	
BE	
BF	
C0	
C1	
C2	
C3	
C4	
C5	
C6	
C7	
C8	
C9	
CA	
CB	
CC	
CD	
CE	
CF	
D0	
D1	
D2	
D3	
D4	
D5	
D6	
D7	
D8	
D9	
DA	

Address	Remark
DB	Fixed data-1
DC	(Initialized data)
DD	
DE	
DF	
E0 to FF	

Table. 5-3-4

3-3. SYSTEM CONTROL SYSTEM ADJUSTMENT

1. Battery End Adjustment (VI-151 Board)

Set the battery end voltage.
If the voltage is incorrect, the life of the battery will shorten. The image at the battery end will also lose synchronization.

Mode	Camera recordings
Subject	Arbitrary
Measurement Point	Display data of page: 2, address: 5D
Measuring Instrument	Adjustment remote commander
Adjustment Page	D
Adjustment Address	30 to 34

Switch setting:

1) AUTO FOCUS ..... OFF
2) LCD display ..... Closed

Connection:

1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 5-3-4.

Adjusting method:

1) Adjust the output voltage of the regulated power supply so that the digital voltmeter reading is 6.1 ± 0.1 Vdc.
2) Turn off the power supply.
3) Turn on the HOLD switch of the adjustment remote commander.
4) Turn on the power supply.
5) Load a cassette, and set the recording mode.
6) Select page: 0, address: 01, and set data: 01.
7) Decrease the output voltage of the regulated power supply so that the digital voltmeter reading is 5.30 ± 0.01 Vdc.
8) Select page: 2, address: 5D, read the data, and this data is named Dref.
9) Set the read-out data (Dref) to page: D. address: 30 and press the PAUSE button.
10) Convert Dref to decimal notation, and obtain Dref'. (Refer to Table 5-4-1 “Hexadecimal-decimal Conversion Table” of “5-4. Service Mode”.)
11) Calculate D_{31}', D_{32}', D_{33}', D_{34}' and D_{49}' using following equations (decimal calculation), convert it to a hexadecimal number, and input each adjustment address.
    Address: 31 $D_{31}' = Dref' + 7$
    Address: 32 $D_{32}' = Dref' + 25$
    Address: 33 $D_{33}' = Dref' + 29$
    Address: 34 $D_{34}' = Dref' + 37$
    Note: After setting each data, be sure to press the PAUSE button of the adjustment remote commander.
12) Select page: 0, address: 01, and set data: 00.

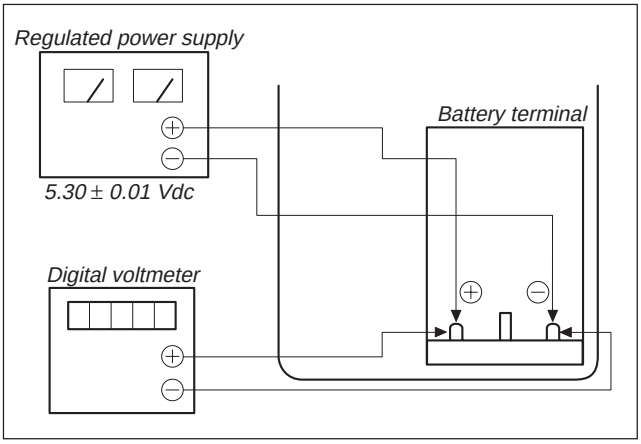


Fig. 5-3-4

3-4. SERVO AND RF SYSTEM ADJUSTMENT

Before performing the servo and RF system adjustments, check that the specified value of "27 MHz Master Oscillator Adjustment" of "CAMERA SYSTEM ADJUSTMENT" is satisfied.

Adjusting Procedure:

1. Cap FG duty adjustment
2. T-reel FG duty adjustment
3. PLL f_0 & LPF f_0 adjustment
4. Switching position adjustment
5. AGC center level adjustment
6. APC & AEQ adjustment
7. PLL f_0 & LPF f_0 final adjustment

1. Cap FG Duty Adjustment (VI-151 Board)

Set the Cap FG signal duty cycle to 50% to establish an appropriate capstan servo. If deviated, the uneven rotation of capstan and noise can occur.

Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	16
Specified Value	00

Adjusting Method:

1) Close the cassette compartment without inserting a cassette.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 3, address: 01, set data: 1B, and press the PAUSE button of the adjustment remote commander.
4) Select page: 3, address: 02, and check that the data changes starting from "1B" to "2B" to "00" in this order.
5) Select page: 3, address: 03, and check that the data is "00".
   Note: If the data of page: 3, address: 03 is "02", adjustment has errors or the mechanism deck is defective.
6) Select page: 0, address: 01, and set data: 00.

2. T Reel FG Duty Adjustment (VI-151 Board)

Adjust the take-up reel FG signal duty cycle to an appropriate value so that the correct T-reel FG signal is obtained.

Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	17
Specified Value	00

Adjusting Method:

1) Close the cassette compartment without inserting a cassette.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 3, address: 01, set data: 1C, and press the PAUSE button of the adjustment remote commander.
4) Select page: 3, address: 02, and check that the data changes starting from "1C" to "2C" to "00" in this order.
5) Select page: 3, address: 03, and check that the data is "00".
   Note: If the data of page: 3, address: 03 is "02", adjustment has errors or the mechanism deck is defective.
6) Select page: 0, address: 01, and set data: 00.

3. PLL f_0 & LPF f_0 Adjustment (VI-151 Board)

Mode	VTR stop
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	1F, 20, 22, 47
Specified Value	00

Adjusting Method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 01, set data: 30, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 02, and check that the data is changed to "00".
4) Select page: 3, address: 03, and check that the data is "00".
   Note: If the data of page: 3, address: 03 is other than "00", there are errors. (For the error contents, see the following table. For the bit values, refer to "5-4. SERVICE MODE", "4-3. 3. Bit value discrimination".
5) Select page: 0, address: 01, and set data: 00.

Bit value of page: 3, address: 03	Error contents
bit 4 = 1	PLL f_0, even channel is defective
bit 5 = 1	PLL f_0, odd channel is defective
bit 6 = 1	LPF f_0 is defective
bit 3 = 1	PLL f_0 final adjustment is defective

4. Switching Position Adjustment (VI-151 Board)

Mode	VTR playback
Signal	SW/OL reference tape (XH2-3)
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	10, 11, 12, 13
Specified Value	00

Adjusting Method:

1) Insert the SW/OL reference tape and enter the VTR STOP mode.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 3, address: 21, and check that the data is “02”.
   Note: If the data of page: 3, address: 21 is “72”, the tape top is being played. After playing the tape for 1 to 2 seconds, perform step 4 and higher.
4) Select page: 3, address: 01, set data: 0D, and press the PAUSE button of the adjustment remote commander.
5) Select page: 3, address: 02, and check the data is changed to "00".
6) Select page: 3, address: 03, and check that the data is “00”.
   Note: If bit 0 of page: 3, address: 03 data is “1”, the even channel is defective. If bit 1 is “1”, the odd channel is defective. Contents of the defect is written into page: C, addresses: 10 and 12. See the following table. (For the bit value, refer to “5-4. SERVICE MODE”, “4-3. 3. Bit value discrimination”.)
7) Select page: 0, address: 01, and set data: 00.

When the even channel is defective

Data of page: C, address: 10	Contents of defect
EE	Writing into EEPROM (IC2404) is defective
E8	Adjustment data is out of range
E7	No data is returned from IC1900 (TRX)

When the odd channel is defective

Data of page: C, address: 12	Contents of defect
EE	Writing into EEPROM (IC2404) is defective
E8	Adjustment data is out of range
E7	No data is returned from IC1900 (TRX)

5. AGC Center Level Adjustment (VI-151 Board)

Mode	Camera record and playback
Subject	Arbitrary
Measurement Point	Pin ⑳ of CN2904 (RF MON) (Note 1)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	1E
Specified Value	The display data of page: 3, address: 03 is “00”

Note 2: Connect a 75 Ω resistor between Pin ⑳ and Pin ⑲ (GND) of CN2904.
75 Ω resistor (Parts code: 1-247-804-11)

Adjusting Method:

1) Select page: 0, address: 01, and set data: 01.
2) Record the camera signal for a minute.
3) Playback the recorded segment.
4) Select page: 3, address: 33, and set data: 08.
5) Confirm that the playback RF signal is stable.
6) Select page: 3, address: 01, set data: 23, and press the PAUSE button of the adjustment remote commander.
7) Select page: 3, address: 02, and check that the data is “00”.
8) Select page: 3, address: 03, and check that the data is “00”.
   Note: If data of page: 3, address: 03 is other than “00”, adjustment has errors. (Take an appropriate remedial measures according to the errors referring to the following table.)
9) Select page: 3, address: 33, and set data: 00.
10) Select page: 0, address: 01, and set data: 00.

Data of page: 3, address: 03	Remedial measures
20	Perform re-adjustment. (Note 2)
30	The machine is defective
40	Perform re-adjustment. (Note 2)
50	The machine is defective

Note 2: If this data is displayed twice successively, the machine is defective.

6. APC & AEQ Adjustment (VI-151 Board)

Mode	Camera record and playback
Subject	Arbitrary
Measurement Point	Pin ⑳ of CN2904 (RF MON) (Note 1)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	18, 19, 1B, 1C, 21, 73
Specified Value	The display data of page: 3, address: 03 is "00"

Note 1: Connect a 75 Ω resistor between Pin ⑳ and Pin ⑲ (GND) of CN2904.
75 Ω resistor (Parts code: 1-247-804-11)

Note 2: The "5. AGC Center Level Adjustment" must have already been completed before starting this adjustment.

Adjusting Method:

1) Select page: 0, address: 01, and set data: 01.
2) Record the camera signal for two minutes.
3) Playback the recorded segment.
4) Select page: 3, address: 33, and set data: 08.
5) Check that the playback RF signal is stable.
6) Select page: 3, address: 01, set data: 07, and press the PAUSE button of the adjustment remote commander.
7) Check that the data of page: 3, address: 02 changes from "07" to "00" in about 50 seconds after pressing the PAUSE button.
8) Select page: 3, address: 03, and check that the data is "00".
   Note: If data of page: 3, address: 03 is other than "00", adjustment has errors. (Take an appropriate remedial measures according to the errors referring to the following table.)
9) Select page: 3, address: 33, and set data: 00.
10) Select page: 0, address: 01, and set data: 00.

Data of page: 3, address: 03	Remedial measures
20	Perform re-adjustment. (Note 3)
30	The machine is defective
50	Perform re-adjustment. (Note 3)
60	The machine is defective
80	The machine is defective

Note 3: If this data is displayed twice successively, the machine is defective.

7. PLL f_0 & LPF f_0 Final Adjustment (VI-151 Board)

Mode	VTR playback
Signal	Arbitrary
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	1F, 20, 22, 47
Specified Value	00

Adjusting Method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 01, set data: 30, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 02, and check that the data changes to "00".
4) Select page: 3, address: 03, and check that the data is "00".
   Note: If the data of page: 3, address: 03 is other than "00", there are errors. (For the error contents, see the following table. For the bit values, refer to "5-4. SERVICE MODE", "4-3. 3. Bit value discrimination".
5) Select page: 0, address: 01, and set data: 00.

Bit value of page: 3, address: 03	Error contents
bit 4 = 1	PLL f_0, even channel is defective
bit 5 = 1	PLL f_0, odd channel is defective
bit 6 = 1	LPF f_0 is defective
bit 3 = 1	PLL f_0 final adjustment is defective

VI-151 BOARD (SIDE A)

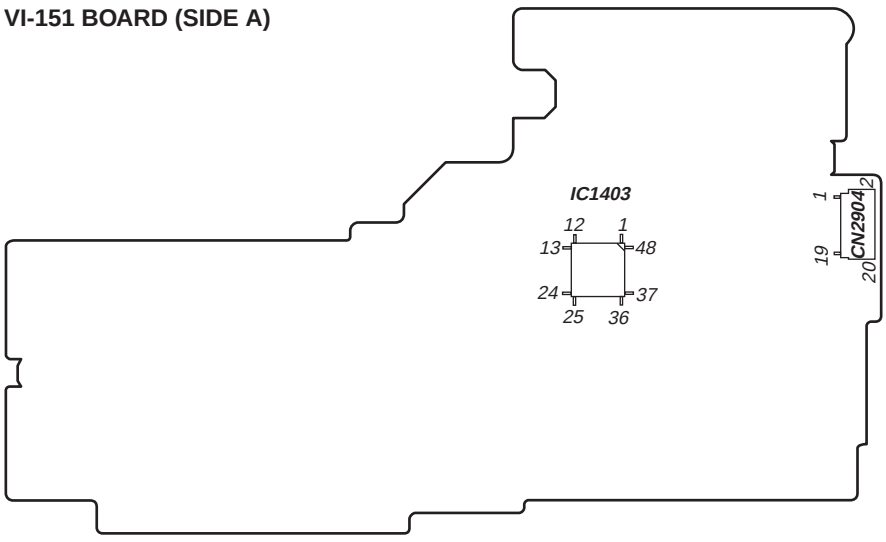


Fig. 5-3-5

3-5. VIDEO SYSTEM ADJUSTMENTS

Before perform the video system adjustments, check that the specified value of "27 MHz Origin Oscillation Adjustment" of "CAMERA SYSTEM ADJUSTMENT" is satisfied.

3-5-1. Base Band Block Adjustments

1. Chroma BPF fo Adjustment (VI-151 Board)

Set the center frequency of IC1402 chroma band-pass filter.

Mode	VTR stop
Signal	No signal
Measurement Point	CH1: Chroma signal terminal of S VIDEO jack (75 Ω terminated) CH2: Y signal terminal of S VIDEO jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	2B
Specified Value	A = 100 mVp-p or less B = 200 mVp-p or more

Switch setting:

DISPLAY (Menu display) ..... V-OUT/LCD
DISPLAY (CK-80 board) ..... ON

Adjusting method:

1) Check that the burst signal (B) is output to the chroma signal terminal of S VIDEO jack.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 3, address: 0C, set data: 04, and press the PAUSE button of the adjustment remote commander.
4) Select page: C, address: 2B, and change the data for minimum amplitude of the burst signal level (A).
   (The data of address: 2B, should be "00" to "07".)
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
6) Check that the burst signal level (B) is satisfied the specified value.
7) Select page: 0, address: 01, and set data: 00.

When the data of page: 3, address: 0C, is 04:

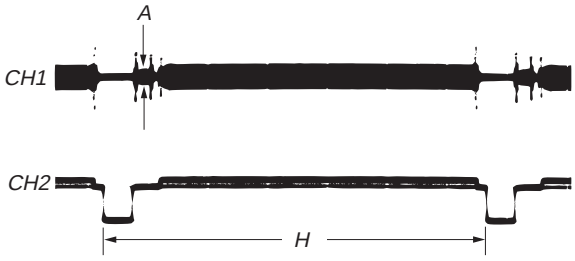


Fig. 5-3-6

When the data of page: 3, address: 0C, is 00.

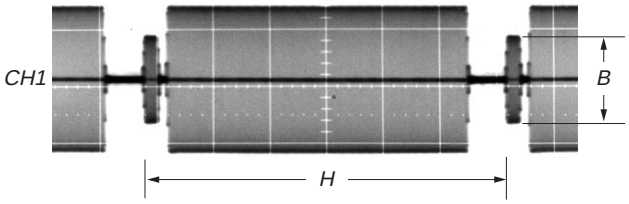


Fig. 5-3-7

2. S VIDEO OUT Y Level Adjustment (VI-151 Board)

Mode	Camera
Subject	Arbitrary
Measurement Point	Y signal terminal of S VIDEO jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	25
Specified Value	A = 1000 ± 14 mV

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 2, address: 35. After note down the data of this address, set data: 01 to the address.
3) Select page: 3, address: 0C, set data: 02, and press the PAUSE button of the adjustment remote commander.
4) Select page: C, address: 25, change the data and set the Y signal level (A) to the specified value.
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
7) Select page: 2, address: 35. and set the data that is noted down at step 2).
8) Select page: 0, address: 01, and set data: 00.

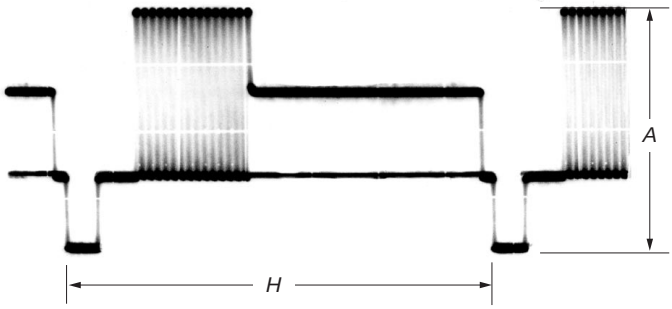


Fig. 5-3-8

3. S VIDEO OUT Chroma Level Adjustment (VI-151 Board)

Mode	Camera
Subject	Arbitrary
Measurement Point	Chroma signal terminal of S VIDEO jack (75 Ω terminated) External trigger: Y signal terminal of S VIDEO jack
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	26, 27
Specified Value	Cr level: A = 714 ± 14 mV (NTSC) A = 700 ± 14 mV (PAL) Cb level: B = 714 ± 14 mV (NTSC) B = 700 ± 14 mV (PAL) Burst level: C = 286 ± 6 mV (NTSC) C = 300 ± 6 mV (PAL)

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 2, address: 35. After note down the data of this address, set data: 01 to the address.
3) Select page: 3, address: 0C, set data: 02, and press the PAUSE button of the adjustment remote commander.
4) Select page: C, address: 26, change the data and set the Cr signal level (A) to the specified value.
5) Press the PAUSE button of the adjustment remote commander.
6) Select page: C, address: 27, change the data and set the Cb signal level (B) to the specified value.
7) Press the PAUSE button of the adjustment remote commander.
8) Check that the burst signal level (C) is satisfied the specified value.
9) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
10) Select page: 2, address: 35. and set the data that is noted down at step 2).
11) Select page: 0, address: 01, and set data: 00.

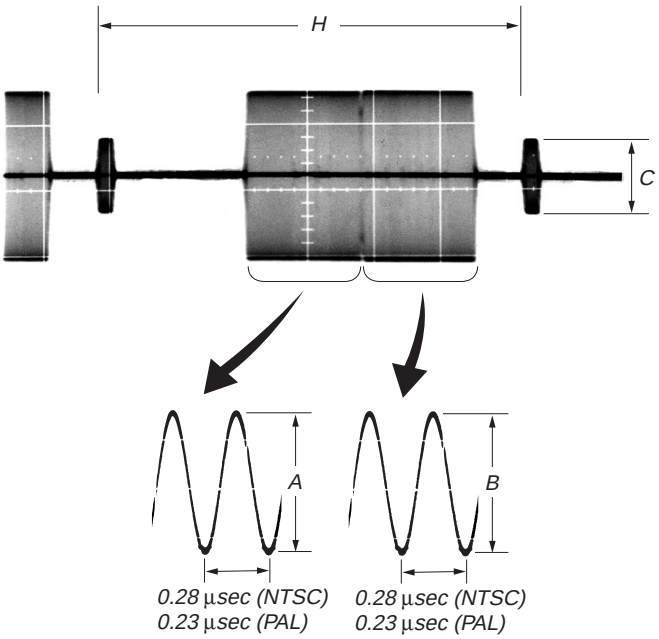


Fig. 5-3-9

4. AV OUT Y, Chroma Level Check (VI-151 Board)

Mode	Camera
Subject	Arbitrary
Measurement Point	Video terminal of AUDIO/VIDEO jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Specified Value	Sync level: A = 286 ± 18 mV (NTSC) A = 300 ± 18 mV (PAL) Burst level: B = 286 ± 18 mV (NTSC) B = 300 ± 18 mV (PAL)

Adjusting method:

1) Select page: 2, address: 35. After note down the data of this address, set data: 01 to the address.
2) Select page: 3, address: 0C, set data: 02, and press the PAUSE button of the adjusting remote commander.
3) Check that the sync signal level (A) satisfies the specified value.
4) Check that the burst signal level (B) satisfies the specified value.
5) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
6) Select page: 2, address: 35. and set the data that is noted down at step 1).

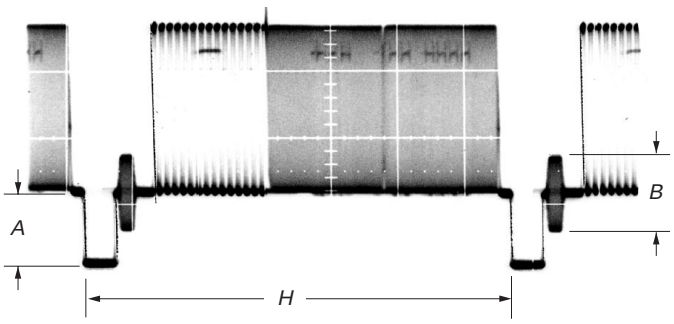


Fig. 5-3-10

5. PLL Adjustment (VC-208 Board)

Set the VCO center level of the video input circuit (IC1200).

Mode	VTR stop
Signal	Color bar (Video terminal of AUDIO/ VIDEO jack input)
Measurement Point	Display data of page: 3, address: 04
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	AA
Specified Value	08 or 09 (Note 1) 08 or 09 or 0A (Note 2)

Note 1: When the data of page: C, address: AA is “00” to “FE”.
Note 2: When the data of page: C, address: AA is “FF”.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 80, and press the PAUSE button of the adjustment remote commander.
3) Select page: C, address: AA, and set data: 00, and press the PAUSE button.
4) Select page: 3, address: 04, and check. If the data is “08” or “09”, proceed to step 7).
5) Select page: C, address: AA, add “10” (hexadecimal) to the data (Note 3) and press the PAUSE button.

Note 3: If the data of page: C, address: AA is “F0”, change the data to “FF” and press the PAUSE button.

6) Select page: 3, address: 04, and check the data satisfies the specified value. If not repeat steps 5) to 6).
7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
8) Select page: 0, address: 01, and set data: 00.

3-5-2. BIST Check

1. Playback System Check

1-1. Preparation for Playback

1) Set the POWER switch to VTR (or PLAYER) position.
2) Connect the adjusting remote commander and set the HOLD switch to ON (SERVICE) position.
3) Playback the BIST check tape. (XH5-6 (NTSC), XH5-6P (PAL))
   Note: Perform the following checks in the playback mode.

1-2. IC1814 (TRF) BIST (PB) Check

1) Select page: 3, address: 12, set data: 04, and press the PAUSE button.
2) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
3) Select page: 3, address: 13, set data: 02, and press the PAUSE button.
4) When the playback system of IC1814 (TRF) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data					
16	63	C5	75	D3	59	FF
17	84	55	07	D6	01	D0

PAL model

Address	Data		
16	86	33	90
17	35	AA	B6

1-3. IC1601 (TFD) BIST (PB) Check

1) Select page: 3, address: 40, set data: 0F, and press the PAUSE button.
2) Select page: 3, address: 40, set data: 00, and press the PAUSE button.
3) When all playback system of IC1601 (TFD) is normal, the display data (combination data) of page: 3, address: 41 and 42 agrees with any combination as shown below.

NTSC model

Address	Data
41	26
42	A1

PAL model

Address	Data
41	69
42	73

4) Select page: 3, address: 40, set data: 03, and press the PAUSE button.
5) Select page: 3, address: 40, set data: 00, and press the PAUSE button.
6) When the video playback system of IC1601 (TFD) is normal, the display data (combination data) of page: 3, address: 41 and 42 agrees with any combination as shown below.

NTSC model

Address	Data
41	7C
42	01

PAL model

Address	Data
41	A6
42	E1

7) Select page: 3, address: 40, set data: 05, and press the PAUSE button.
8) Select page: 3, address: 40, set data: 00, and press the PAUSE button.
9) When the audio playback system of IC1601 (TFD) is normal, the display data (combination data) of page: 3, address: 41 and 42 agrees with any combination as shown below.

NTSC model

Address	Data
41	88
42	A9

PAL model

Address	Data
41	43
42	C8

10) Select page: 3, address: 40, set data: 09, and press the PAUSE button.
11) Select page: 3, address: 40, set data: 00, and press the PAUSE button.
12) When the subcode playback system of IC1601 (TFD) is normal, the display data (combination data) of page: 3, address: 41 and 42 agrees with any combination as shown below.

NTSC model

Address	Data
41	72
42	CD

PAL model

Address	Data
41	76
42	A9

1-4. IC1600 (SFD) BIST (PB) Check

1) Select page: 0, address: 01, and set data: 01.
2) Select page: C, address: AC, set data: 21, and press the PAUSE button.
3) Select page: C, address: AD, set data: 01, and press the PAUSE button.
4) Select page: 3, address: 11, set data: 04, and press the PAUSE button.
5) Select page: 3, address: 12, set data: 08, and press the PAUSE button.
6) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
7) Select page: 3, address: 13, set data: 03, and press the PAUSE button.
8) When the playback system from IC1600 (SFD) to IC2002 (ADC&DAC) is normal, the display data (combination data) of page: 3, address: 14 and 15 agrees with any combination as shown below.

NTSC model

Address	Data
14	41
15	81

PAL model

Address	Data
14	2D
15	7C

9) When the playback system from IC1600 (SFD) to IC1602 (LIP) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data	
16	1E	F0
17	B4	31

PAL model

Address	Data
16	1C
17	A6

10) When the playback system from IC1600 (SFD) to IC1601 (TDF) is normal, the display data (combination data) of page: 3, address: 18 and 19 agrees with any combination as shown below.

NTSC model

Address	Data	
18	72	16
19	F8	5C

PAL model

Address	Data
18	A7
19	CC

11) When the playback system from IC1600 (SFD) to IC1501 (VFD) is normal, the display data (combination data) of page: 3, address: 1A and 1B agrees with any combination as shown below.

NTSC model

Address	Data
1A	12
1B	43

PAL model

Address	Data
1A	90
1B	CE

12) Select page: C, address: AC, set data: 20, and press the PAUSE button.
13) Select page: C, address: AD, set data: 00, and press the PAUSE button.
14) Select page: 0, address: 01, and set data: 00.

1-5. IC1501 (VFD) BIST (PB) Check

1) Select page: 0, address: 01, and set data: 01.
2) Select page: C, address: 60, set data: 06, and press the PAUSE button.

• VBUS/EX BIST (PB) Check

3) Select page: 3, address: 10, set data: 00, and press the PAUSE button.
4) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
5) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
6) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
7) When the playback system from IC1600 (SFD) to IC1501 (VFD) is normal, the display data (combination data) of page: 3, address: 14 and 15 agrees with any combination as shown below.

NTSC model

Address	Data
14	12
15	43

PAL model

Address	Data
14	90
15	CE

8) When the playback system from IC1501 (VFD) to IC756 (HONEY) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data
16	FB
17	F4

PAL model

Address	Data
16	54
17	ED

• UPY Y BIST (PB) Check

9) Select page: 3, address: 10, set data: 88, and press the PAUSE button.
10) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
11) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
12) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
13) When the playback system from IC1501 (VFD) to IC5001, 5502 (LCD DRIVER) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data
16	9A
17	13

PAL model

Address	Data
16	03
17	C9

• UPY Cr BIST (PB) Check

14) Select page: 3, address: 10, set data: 89, and press the PAUSE button.
15) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
16) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
17) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
18) When the playback system from IC1501 (VFD) to IC5001, 5502 (LCD DRIVER) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data
16	1C
17	60

PAL model

Address	Data
16	14
17	A7

• UPY Cb BIST (PB) Check

19) Select page: 3, address: 10, set data: 8A, and press the PAUSE button.
20) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
21) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
22) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
23) When the playback system from IC1501 (VFD) to IC5001, 5502 (LCD DRIVER) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data
16	92
17	5A

PAL model

Address	Data
16	B8
17	67

• Preparation of ENC BIST (PB) Check

24) Select page: C, address: 51, set data: 0F, and press the PAUSE button.

• ENC Ya BIST (PB) Check

25) Select page: 3, address: 10, set data: 8B, and press the PAUSE button.
26) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
27) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
28) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
29) When the playback system from IC1501 (VFD) to IC1402 (AOI) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data
16	3C
17	D2

PAL model

Address	Data
16	69
17	21

• ENC Yb BIST (PB) Check

30) Select page: 3, address: 10, set data: 8C, and press the PAUSE button.
31) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
32) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
33) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
34) When the playback system from IC1501 (VFD) to IC1402 (AOI) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data
16	83
17	9E

PAL model

Address	Data
16	CC
17	ED

• ENC Ca BIST (PB) Check

35) Select page: 3, address: 10, set data: 8D, and press the PAUSE button.
36) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
37) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
38) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
39) When the playback system from IC1501 (VFD) to IC1402 (AOI) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data	
16	FE	22
17	68	CA

PAL model

Address	Data	
16	70	43
17	D5	E4

• ENC Cb BIST (PB) Check

40) Select page: 3, address: 10, set data: 8E, and press the PAUSE button.
41) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
42) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
43) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
44) When the playback system from IC1501 (VFD) to IC1402 (AOI) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data	
16	B2	DE
17	E7	EE

PAL model

Address	Data	
16	ED	9A
17	CB	1E

45) Select page: C, address: 51, set data: 03, and press the PAUSE button.
46) Select page: C, address: 60, set data: 0E, and press the PAUSE button.
47) Select page: 0, address: 01, and set data: 00.

2. Recording System Check

2-1. Preparations for recording

1) Playback the BIST check tape. (XH5-6(NTSC), XH5-6P(PAL))
2) Select page: 3, address: 10, set data: C0, and press the PAUSE button.
3) Select page: 3, address: 11, set data: 07, and press the PAUSE button.
4) Enter the stop mode.
5) While keep the HOLD switch of the adjusting remote commander at ON (SERVICE) position, eject the BIST check tape and insert a tape for recording in place of the tape.
6) Enter the camera recording mode.
   Note: Perform the following checks in the camera recording mode.

2-2. IC1501 (VFD) BIST (REC) Check

1) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
2) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
3) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
4) When the recording system from IC1501 (VFD) to IC1600 (SFD) is normal, the display data (combination data) of page: 3, address: 14 and 15 agrees with any combination as shown below.

NTSC model

Address	Data
14	D5
15	0B

PAL model

Address	Data
14	34
15	8A

2-3. IC1600 (SFD) BIST (REC) Check

1) Select page: 0, address: 01, and set data: 01.
2) Select page: C, address: AC, set data: 21, and press the PAUSE button.
3) Select page: C, address: AD, set data: 01, and press the PAUSE button.
4) Select page: 3, address: 11, set data: 04, and press the PAUSE button.
5) Select page: 3, address: 12, set data: 08, and press the PAUSE button.
6) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
7) Select page: 3, address: 13, set data: 03, and press the PAUSE button.
8) When the recording system from IC1600 (SFD) to IC1602 (LIP) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data	
16	00	BC
17	15	CE

PAL model

Address	Data	
16	2D	A2
17	F5	7B

9) When the recording system from IC1600 (SFD) to IC1601 (TFD) is normal, the display data (combination data) of page: 3, address: 18 and 19 agrees with any combination as shown below.

NTSC model

Address	Data	
18	F7	4F
19	F6	69

PAL model

Address	Data	
18	6C	23
19	C7	76

10) When the recording system from IC1501 (VFD) to IC1600 (SFD) is normal, the display data (combination data) of page: 3, address: 1A and 1B agrees with any combination as shown below.

NTSC model

Address	Data
1A	D5
1B	0B

PAL model

Address	Data
1A	34
1B	8A

11) Select page: C, address: AC, set data: 20, and press the PAUSE button.
12) Select page: C, address: AD, set data: 00, and press the PAUSE button.
13) Select page: 0, address: 01, and set data: 00.

2-4. IC1601 (TFD) BIST (REC) Check

1) Select page: 3, address: 40, set data: 0F, and press the PAUSE button.
2) Select page: 3, address: 40, set data: 00, and press the PAUSE button.
3) When all recording system of IC1601 (TFD) is normal, the display data (combination data) of page: 3, address: 41 and 42 agrees with any combination as shown below.

NTSC model

Address	Data	
41	C2	A7
42	42	DD

PAL model

Address	Data	
41	55	1A
42	B5	04

4) Select page: 3, address: 40, set data: 03, and press the PAUSE button.
5) Select page: 3, address: 40, set data: 00, and press the PAUSE button.
6) When the video recording system of IC1601 (TFD) is normal, the display data (combination data) of page: 3, address: 41 and 42 agrees with any combination as shown below.

NTSC model

Address	Data
41	BB
42	4E

PAL model

Address	Data
41	DC
42	ED

7) Select page: 3, address: 40, set data: 05, and press the PAUSE button.
8) Select page: 3, address: 40, set data: 00, and press the PAUSE button.
9) When the audio recording system of IC1601 (TFD) is normal, the display data (combination data) of page: 3, address: 41 and 42 agrees with any combination as shown below.

NTSC model

Address	Data
41	D7
42	23

PAL model

Address	Data
41	E4
42	38

10) Select page: 3, address: 40, set data: 09, and press the PAUSE button.
11) Select page: 3, address: 40, set data: 00, and press the PAUSE button.
12) When the subcode recording system of IC1601 (TFD) is normal, the display data (combination data) of page: 3, address: 41 and 42 agrees with any combination as shown below.

NTSC model

Address	Data
41	D9
42	3C

PAL model

Address	Data
41	47
42	27

13) Select page: 3, address: 40, set data: 01, and press the PAUSE button.
14) Select page: 3, address: 40, set data: 00, and press the PAUSE button.
15) When the recording system from IC1601 (TFD) to IC1900 (TRX) is normal, the display data (combination data) of page: 3, address: 43 and 44 agrees with any combination as shown below.

NTSC model

Address	Data	
43	18	C8
44	F0	FB

PAL model

Address	Data	
43	F6	A2
44	2A	E3

2-5. IC1900 (TRX) BIST (REC) Check

1) Select page: 3, address: 12, set data: 04, and press the PAUSE button.
2) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
3) Select page: 3, address: 13, set data: 02, and press the PAUSE button.
4) When all recording system of IC1900 (TRX) is normal, the display data (combination data) of page: 3, address: 14 and 15 agrees with any combination as shown below.

NTSC model

Address	Data	
14	96	BC
15	D1	0E

PAL model

Address	Data	
14	27	B5
15	8D	61

3-6. AUDIO SYSTEM ADJUSTMENTS

[Connection of Audio System Measuring Devices]

Connect the audio system measuring devices as shown in Fig. 5-3-11.

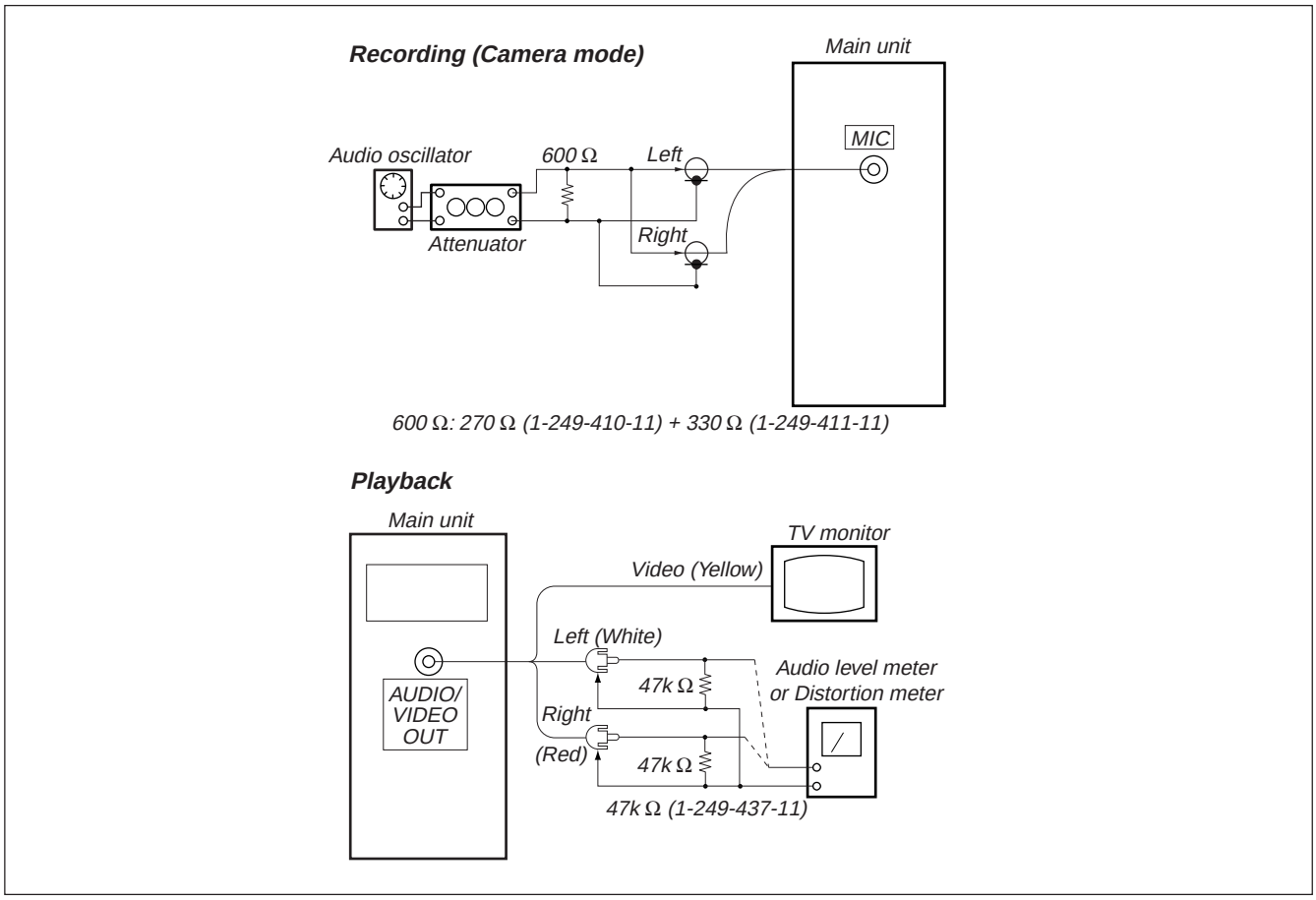


Fig. 5-3-11

1. Playback Level Check

Mode	VTR playback
Signal	Alignment tape: For audio operation check (XH5-3 (NTSC)) (XH5-3P (PAL))
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack
Measuring Instrument	Audio level meter and frequency counter
Specified Value	32 kHz mode: 1 kHz, +3.0 ± 2.0 dBs 48 kHz mode: 1 kHz, +3.0 ± 2.0 dBs 44.1 kHz mode: The 7.35 kHz signal level during EMP OFF is +2.0 ± 2.0 dBs. The 7.35 kHz signal level during EMP ON is –6 ± 2 dB from the signal level during EMP OFF.

Checking Method:

1) Check that the playback signal level is the specified value.

2. Overall Level Characteristics Check

Mode	Camera recording and playback
Signal	400 Hz, –66 dBs signal: MIC jack left and right
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack
Measuring Instrument	Audio level meter
Specified Value	–7.5 ± 3.0 dBs

Checking Method:

1) Input the 400 Hz, –66 dBs signal in the MIC jack.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the 400 Hz signal level is the specified value.

3. Overall Distortion Check

Mode	Camera recording and playback
Signal	400 Hz, –66 dBs signal: MIC jack left and right
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack
Measuring Instrument	Audio distortion meter
Specified Value	Below 0.4 % (200 Hz to 6 kHz BPF ON)

Checking Method:

1) Input the 400 Hz, –66 dBs signal in the MIC jack.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the distortion is the specified value.

4. Overall Noise Level Check

Mode	Camera recording and playback
Signal	No signal: Insert a shorting plug in the MIC jack
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack
Measuring Instrument	Audio level meter
Specified Value	Below –45 dBs (IHF-A filter ON, 20 kHz LPF ON)

Checking Method:

1) Insert a shorting plug in the MIC jack.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the noise level is the specified value.

5. Overall Separation Check

Mode	Camera recording and playback
Signal	400 Hz, –66 dBs signal: MIC jack <right> [left] (Connect the MIC jack <left> [right] to GND)
Measurement Point	Audio <left> [right] terminal of AUDIO VIDEO jack
Measuring Instrument	Audio level meter
Specified Value	Below –40 dBs (IHF-A filter ON)

< > : Left channel check
[ ] : Right channel check

Checking Method:

1) Input the 400 Hz, –66 dBs signal in the <right> [left] terminal of the MIC jack only.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the signal level of the audio <left> [right] terminal is the specified value.

5-4. SERVICE MODE

4-1. ADJUSTMENT REMOTE COMMANDER

The adjustment remote commander is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjustment remote commander performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the Adjustment Remote Commander

1) Connect the adjustment remote commander to the LANC terminal.
2) Set the HOLD switch of the adjustment remote commander to "HOLD" (SERVICE position). If it has been properly connected, the LCD on the adjustment remote commander will display as shown in Fig. 5-4-1.

Fig. 5-4-1

3) Operate the adjustment remote commander as follows.
   - Changing the page
     The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH– button is pressed. There are altogether 16 pages, from 0 to F.

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD Display	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
Decimal notation conversion value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

   - Changing the address
     The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. There are altogether 256 addresses, from 00 to FF.
   - Changing the data (Data setting)
     The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. There are altogether 256 data, from 00 to FF.
   - Writing the adjustment data
     The PAUSE button must be pressed to write the adjustment data (B, C, D, F page) in the nonvolatile memory. (The new adjusting data will not be recorded in the nonvolatile memory if this step is not performed.)
4) After completing all adjustments, turn off the main power supply (8.4V) once.

2. Precautions Upon Using the Adjustment Remote Commander

Mishandling of the adjustment remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

4-2. DATA PROCESS

The calculation of the DDS display and the adjustment remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Indicates the hexadecimal-decimal conversion table.

Hexadecimal-decimal Conversion Table

	Lower digit of hexadecimal / Upper digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (A)	B (b)	C (c)	D (d) ②	E (E)	F (F)
	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
	4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79
	5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
	6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
	7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
	8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
	9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
	A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
①	B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
	C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
	D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
	E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
	F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

Note: The characters shown in the parenthesis ( ) shown the display on the adjustment remote commander.

(Example) If the DDS display or the adjustment remote commander shows BD (bd);
Because the upper digit of the adjustment number is B (b), and the lower digit is D (d), the meeting point "189" of ① and ② in the above table is the corresponding decimal number.

Table. 5-4-1

4-3. SERVICE MODE

1. Setting the Test Mode

Page D	Address 10

Data	Function
00	Normal
01	Forced camera power ON
02	Forced VTR power ON
03	Forced camera + VTR power ON
05	Forced memory power ON

- Before setting the data , select page: 0, address: 01, and set data: 01.
- For page D, the data set is recorded in the non-volatile memory by pressing the PAUSE button of the adjustment remote commander. In this case, take note that the test mode will not be exited even when the main power is turned off (8.4Vdc).
- After completing adjustments/repairs, be sure to return the data of this address to 00, and press the PAUSE button of the adjustment remote commander.
  Select page: 0, address: 01, and set data: 00.

2. Emergence Memory Address

Page C	Address 38 to 43

Address	Contents
38	EMG code when first error occurs
3A	Upper: MSW code when shift starts when first error occurs Lower: MSW code when first error occurs
3B	Lower: MSW code to be moved when first error occurs
3C	EMG code when second error occurs
3E	Upper: MSW code when shift starts when second error occurs Lower: MSW code when second error occurs
3F	Lower: MSW code to be moved when second error occurs
40	EMG code when last error occurs
42	Upper: MSW code when shift starts when last error occurs Lower: MSW code when last error occurs
43	Lower: MSW code to be moved when last error occurs

When no error occurs in this unit, data “00” is written in the above addresses (38 to 43). when first error occurs in the unit, the data corresponding to the error is written in the first emergency address (38 to 3B). In the same way, when the second error occurs, the data corresponding to the error is written in the second emergency address (3C to 3F). Finally, when the last error occurs, the data corresponding to the error is written in the last emergency address (40 to 43).

Note: After completing adjustments, be sure to initialize the data of addresses 38 to 43 to “00”.

Initializing method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: C, address: 38, set data: 00, and press the PAUSE button.
3) Select address: 39 to 43 and set data: “00” into them in same way as in address: 38.
4) Select page: 0, address: 01, and set data: 00.

2-1. EMG Code (Emergency Code)

Codes corresponding to the errors which occur are written in addresses 38, 3C and 40. The type of error indicated by the code are shown in the following table.

Code	Emergency Type
00	No error
10	Loading motor emergency during loading
11	Loading motor emergency during unloading
22	T reel emergency during normal rotation
23	S reel emergency during normal rotation
24	T reel emergency (Short circuit between S reel terminal and T reel terminal)
30	FG emergency at the start up of the capstan
40	FG emergency at the start up of the drum
42	FG emergency during normal rotation of the drum

2-2. MSW Code

MSW when errors occur:

Information on MSW (mode SW) when errors occur

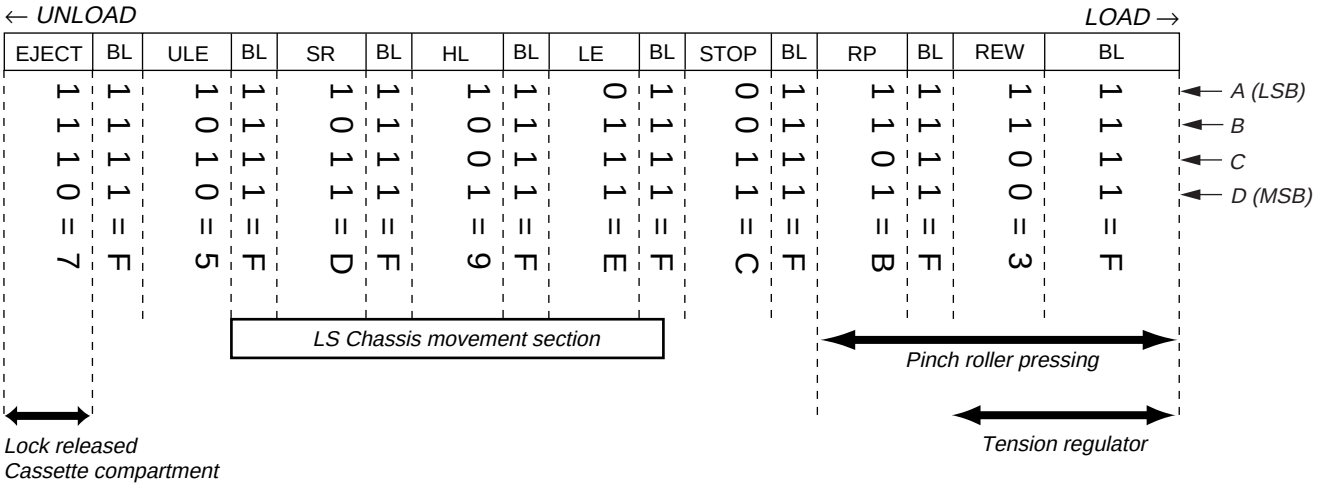
MSW when movement starts:

Information on MSW when movements starts when the mechanism position is moved (When the L motor is moved)

MSW of target of movement:

Information on target MSW of movement when the mechanism position is moved

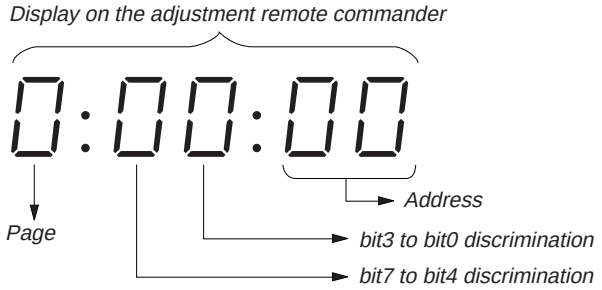
Mechanical Position



Position	Code	Contents
EJECT	7	Position at which the cassette component lock is released, at the farthest unload side mechanically at which the mechanism can move no further in the UNLOAD direction.
BL	F	BLANK code, at the boundary between codes.
USE	5	EJECT completion position. When the cassette is ejected, the mechanism will stop at this position. Cassette IN standby. The guide will start protruding out as the mechanism moves towards the LOAD position.
SR	D	Code during loading.
HL	9	Guide loading are performed here.
LE	E	Current limiter turned off.
STOP	C	Stop position in the loading state. The pinch roller separates, the tension regulator returns, and the brake is imposed on both reels.
RP	B	PB, REC, CUE, PAUSE positions. When pinch roller is pressed, and the tension regulator is ON, the mechanism is operating at this position in modes in which normal images are shown.
REW	3	REW position. The tension regulator is half on. This position is not used except for the REW mode.

3. Bit Value Discrimination

Bit values must be discriminated using the display data of the adjustment remote commander for following items. Use the table below to discriminate if the bit value is "1" or "0".



	Display on the adjustment remote commander	Bit values			
		bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
Ⓐ	8	1	0	0	0
	9	1	0	0	1
	A (R)	1	0	1	0
	B (b)	1	0	1	1
	C (c)	1	1	0	0
	D (d)	1	1	0	1
Ⓑ	E (E)	1	1	1	0
	F (F)	1	1	1	1

Example: If "8E" is displayed on the adjustment remote commander, the bit values for bit7 to bit4 are shown in the Ⓐ column, and the bit values for bit3 to bit0 are shown in the Ⓑ column.

4. Switch Check (1)

Page 2	Address 43

Bit	Function	When bit value=1	When bit value=0
0	VTR MODE SW	OFF	ON
1	CAM MODE SW	OFF	ON
2	START/STOP SW	OFF	ON
3	EJECT SW	OFF	ON
4	CC DOWN SW	OFF	ON
5	PHOTO FREEZE SW	OFF	ON
6			
7	PHOTO REC SW	OFF	ON

Using method:

1) Select page: 2, address: 43.
2) By discriminating the bit value of display data, the state of the switches can be discriminated.

5. Switch Check (2)

Page 2	Address 60 to 67

Using method:

1) Select page: 2, address: 60 to 67.
2) By discriminating the display data, the pressed key can be discriminated.

Address	Data						
	00 (00 to 0A)	19 (0B to 24)	32 (25 to 44)	59 (45 to 6E)	85 (4F to 9F)	B8 (A0 to D4)	EE (D5 to FF)
60 (KEY AD0) (IC2204 ⑨③)	STOP (FK4880 block) (S800)	REW (FK4880 block) (S802)	PLAY (FK4880 block) (S804)	REC (FK4880 block) (S807, 808)			No key input
61 (KEY AD1) (IC2204 ⑨④)	PAUSE (FK4880 block) (S801)	FF (FK4880 block) (S803)	PHOTO REC (FK4880 block) (S811)	SELF TIMER (FK4880 block) (S805)	TC RESET (FK4880 block) (S809)		No key input
62 (KEY AD2) (IC2204 ⑨⑤)	FADER (ED-48 block) (S7000)	BACK LIGHT (ED-48 board) (S7001)		EDIT SEARCH – (ED-48 board) (S7002)	EDIT SEARCH + (ED-48 board) (S7003)		No key input
63 (KEY AD3) (IC2204 ⑨⑥)	EXPOSURE (FP-18, S103)	PROGRAM AE (FP-18, S102)	WHITE BALANCE (FP-18,S101)	SHUTTER (FP-18, S100)	AUTO LOCK HOLD (CK-80 board) (S7214)	AUTO LOCK AUTO (CK-80 board) (S7214)	AUTO LOCK MANUAL (CK-80 board) (S7214)
64 (KEY AD4) (IC2204 ⑨⑦)	TITLE (CK-80 board) (S7202)	DIGITAL EFFECT (CK-80 board) (S7205)	PICTURE EFFECT (CK-80 board) (S7208)	EXECUTE (CK-80 board) (S7219)	ZEBRA 100% (CK-80 board) (S7210)	ZEBRA 70% (CK-80 board) (S7210)	ZEBRA OFF (CK-80 board) (S7210)
65 (KEY AD5) (IC2204 ⑨⑧)	END SEARCH (CK-80 board) (S7201)	DISPLAY (CK-80 board) (S7204)	MENU (CK-80 board) (S7207)	ND FILTER (FP-21, S702)	FOCUS INFINITY (FP-21, S700)	FOCUS AUTO (FP-21, S700,701)	FOCUS MANUAL (FP-21, S700)
66 (KEY AD6) (IC2204 ⑨⑨)	MEMORY + (CK-80 board) (S7200)	MEMORY – (CK-80 board) (S7203)	MEMORY INDEX (CK-80 board) (S7206)	MEMORY DELETE (CK-80 board) (S7209)	MEMORY PLAY (CK-80 board) (S7209)	PANEL REVERSE (FP-16, S001)	PANEL NORMAL (FP-16, S001)
67 (KEY AD7) (IC2204 ⑩⓪)	PANEL BRIGHT + (FP-19, S503)	PANEL BRIGHT – (FP-19, S502)	VOLUME + (FP-19, S501)	VOLUME – (FP-19, S500)	DATA CODE (CK-80 board) (S7212)	PANEL CLOSE (FP-16, S002)	PANEL OPEN (FP-16, S001)

6. Record of Use Check

Page 2	Address A2 to AA

Address	Function		Remarks
A2	Drum rotation counted time (BCD code)	Minutes	
A3		Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
A4		Hour (H)	1000th place digit and 100th place digit of counted time (decimal digit)
A5	User initial power on date (BCD code)	Year	After setting the clock, set the date of power on next.
A6		Month	
A7		Day	
A8	Final condensation occurrence date (BCD code)	Year	
A9		Month	
AA		Day	

Using method:

1) The record of use data is displayed at page: 2, addresses: A2 to AA.
   Note: This data will be erased when the coin lithium battery (CK-80 board BT7200) is removed (reset).

SECTION 6
REPAIR PARTS LIST

6-1. EXPLODED VIEWS

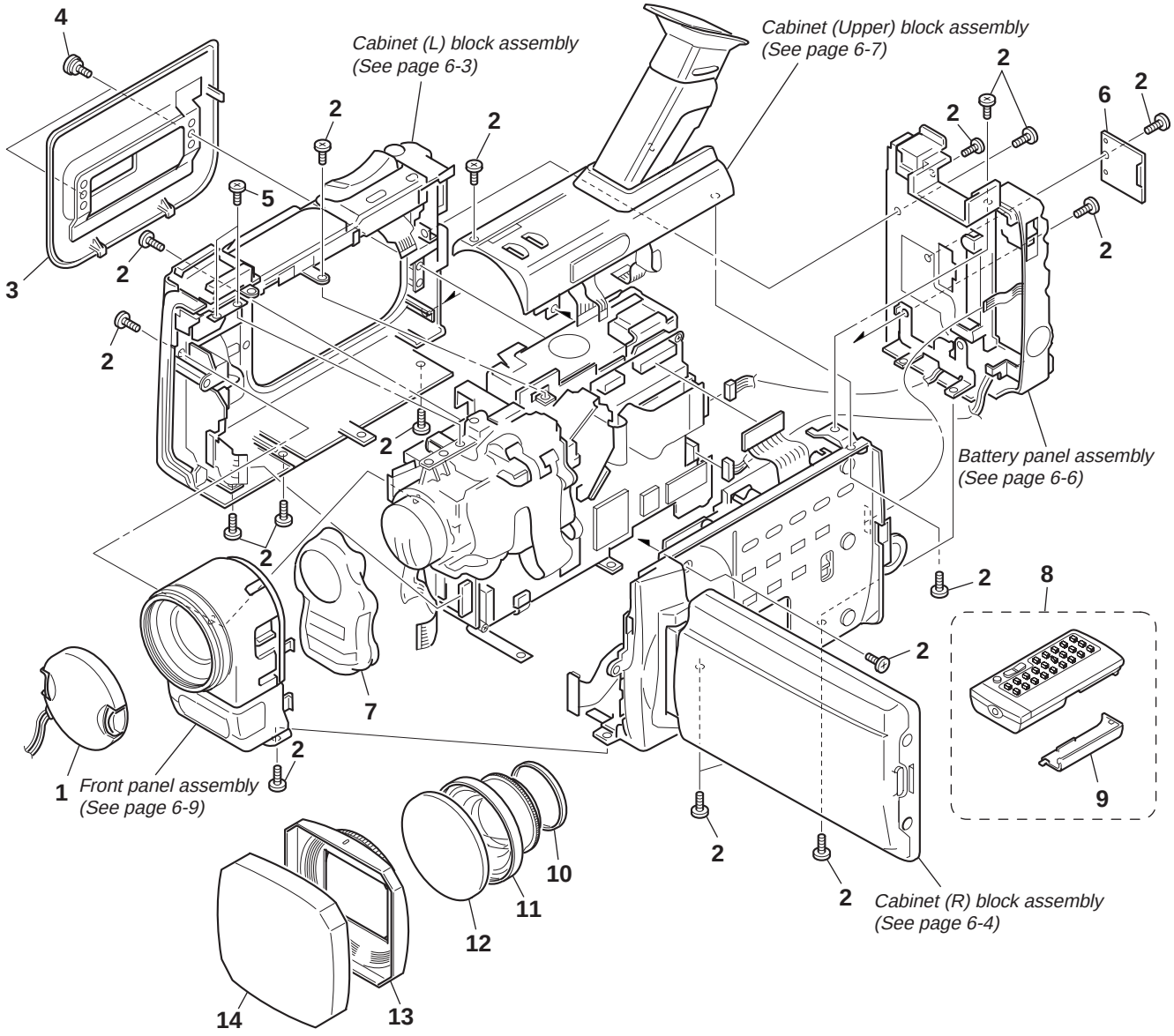
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  CND: Canadian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

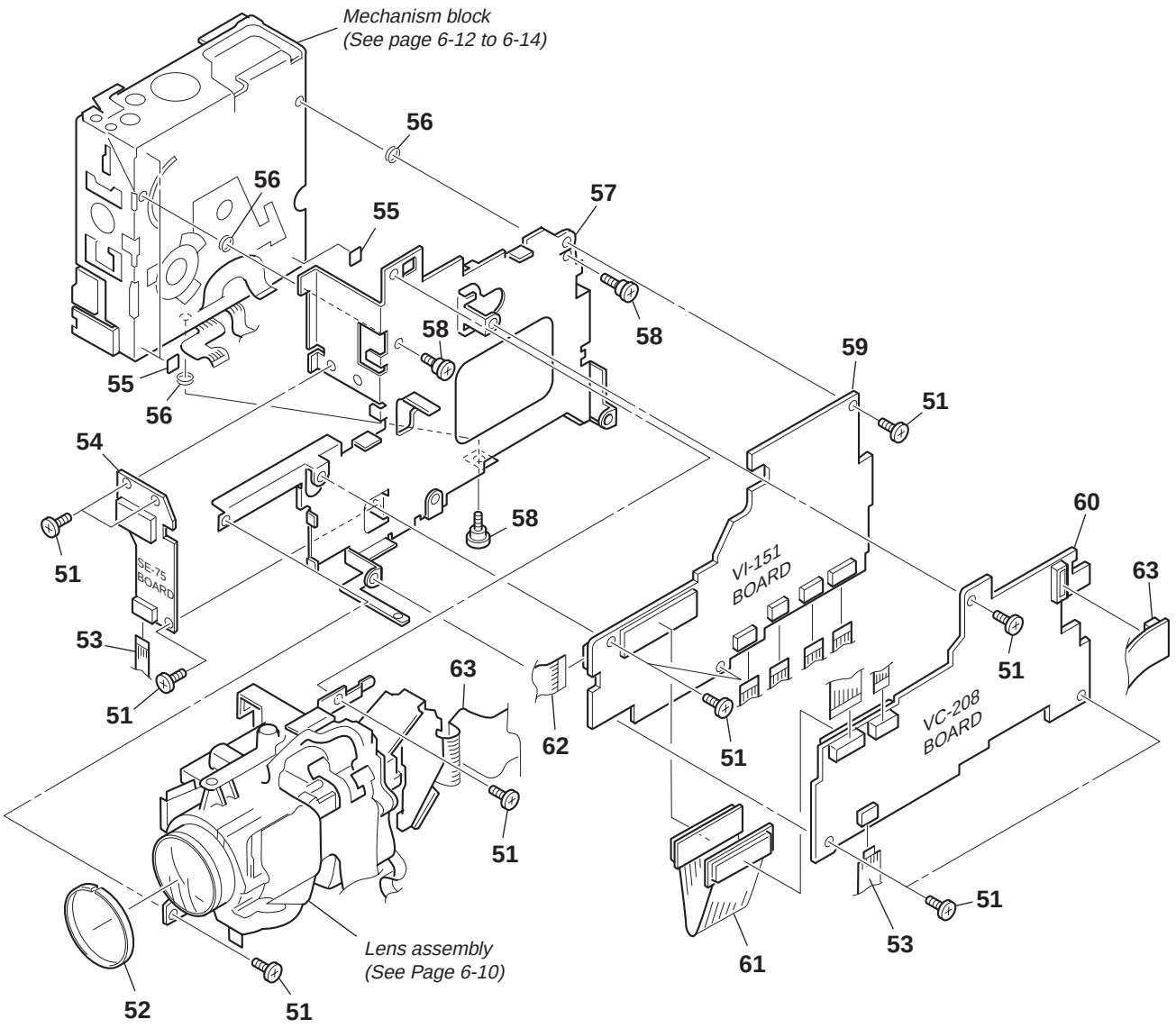
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1-1. OVERALL SECTION



Ref. No.	Part No.	Description	Remarks
1	X-3948-941-1	CAP ASSY, LENS	
2	3-968-729-01	SCREW (M2), LOCK ACE, P2	
3	X-3948-999-1	LID ASSY, CASSETTE	
4	3-989-746-01	SCREW (M2 STEP)	
5	3-968-729-51	SCREW (M2), LOCK ACE, P2	
6	3-051-885-01	COVER, CPC	
7	3-052-033-01	SHEET, ACOUSTIC ISOLATION	
8	1-475-950-21	REMOTE COMMANDER (RMT-811)	
9	3-053-056-01	LID, BATTERY CASE	
10	3-053-549-01	CAP, WIDE CONVERSION (58.5 ∅)	
11	3-052-859-01	CONVERSION, WIDE	
12	3-053-550-01	CAP, WIDE CONVERSION (85 ∅)	
13	3-052-849-01	LID, HOOD	
14	3-053-551-01	CAP, HOOD	

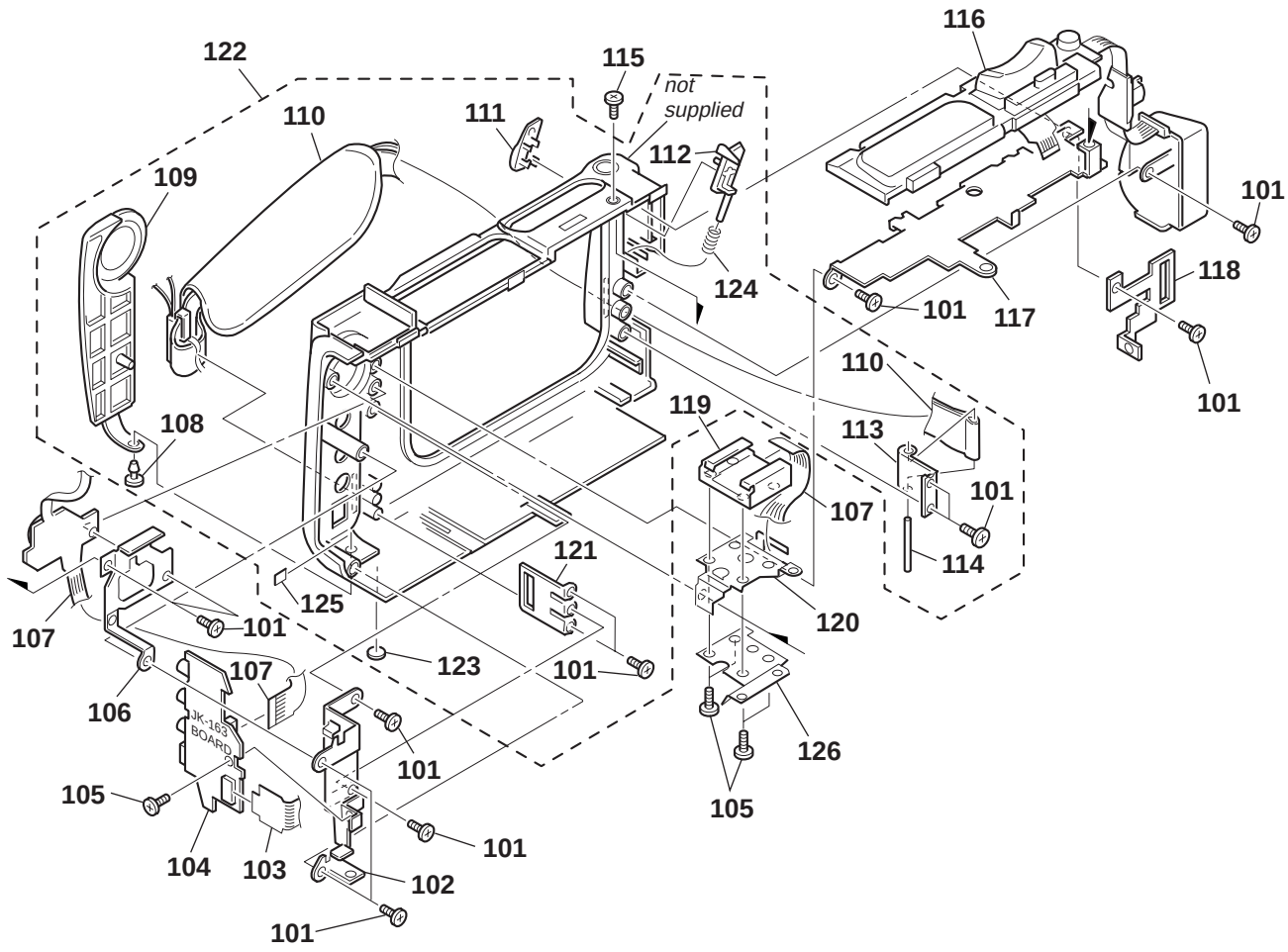
6-1-2. MECHANISM FRAME SECTION



Ref. No.	Part No.	Description	Remarks
51	3-968-729-51	SCREW (M2), LOCK ACE, P2	
* 52	3-052-621-01	CUSHION, LENS	
53	1-670-982-11	FP-14 FLEXIBLE BOARD	
54	A-7073-675-A	SE-75 BOARD, COMPLETE	
55	3-975-921-01	SHEET, VIBRATION PROOF	
* 56	3-052-802-01	PIN, MD GROUND	
57	X-3948-939-1	FRAME ASSY, MD	

Ref. No.	Part No.	Description	Remarks
58	3-988-464-01	SCREW (M2), STEP	
59	A-7094-065-A	VI-151(D) BOARD, COMPLETE (PD100)	
59	A-7094-121-A	VI-151(D) BOARD, COMPLETE (PD100P)	
60	A-7093-974-A	VC-208 BOARD, COMPLETE	
61	1-670-976-21	FP-8 FLEXIBLE BOARD	
62	1-670-980-11	FP-12 FLEXIBLE BOARD	
63	A-7073-676-A	CD-202 BOARD, COMPLETE	

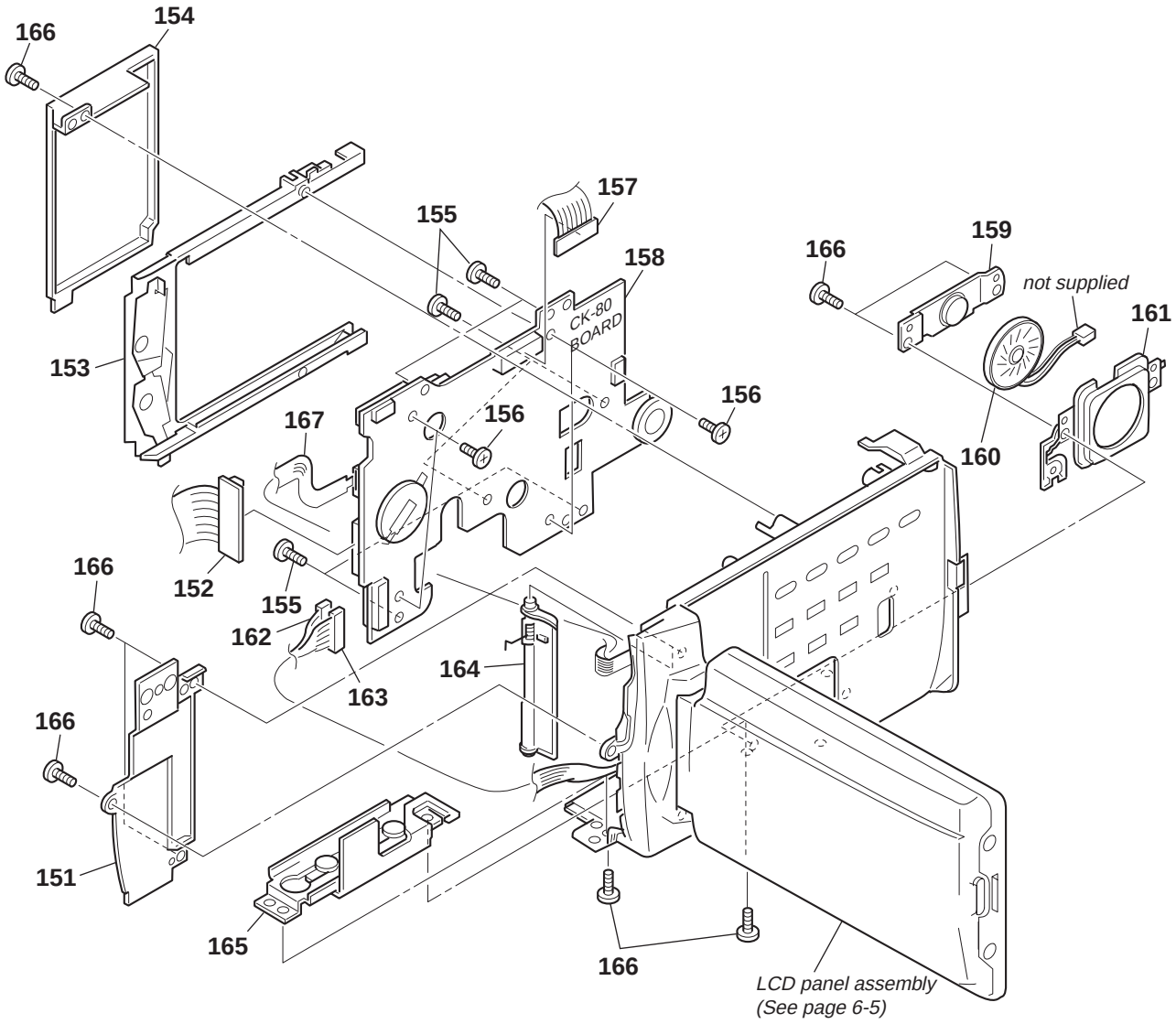
6-1-3. CABINET (L) SECTION



Ref. No.	Part No.	Description	Remarks
101	3-948-339-01	SCREW, TAPPING	
102	3-051-902-01	SHEET METAL, JK	
103	1-670-979-11	FP-11 FLEXIBLE BOARD	
104	A-7073-677-A	JK-163 BOARD, COMPLETE	
105	3-968-729-51	SCREW (M2), LOCK ACE, P2	
106	3-051-901-01	SHEET METAL, S TERMINAL	
107	1-670-990-21	FP-23 FLEXIBLE BOARD	
108	3-051-930-01	PIN, JACK	
110	3-051-873-01	BELT, GRIP	
109	3-051-899-01	COVER, JACK	
111	3-051-864-01	BUTTON, EJECT	
112	3-051-865-01	LOCK, EJECT	
113	3-051-866-01	BRACKET (REAR), BELT	
114	3-703-357-08	PIN (DIA. 1.6 SERISE)	

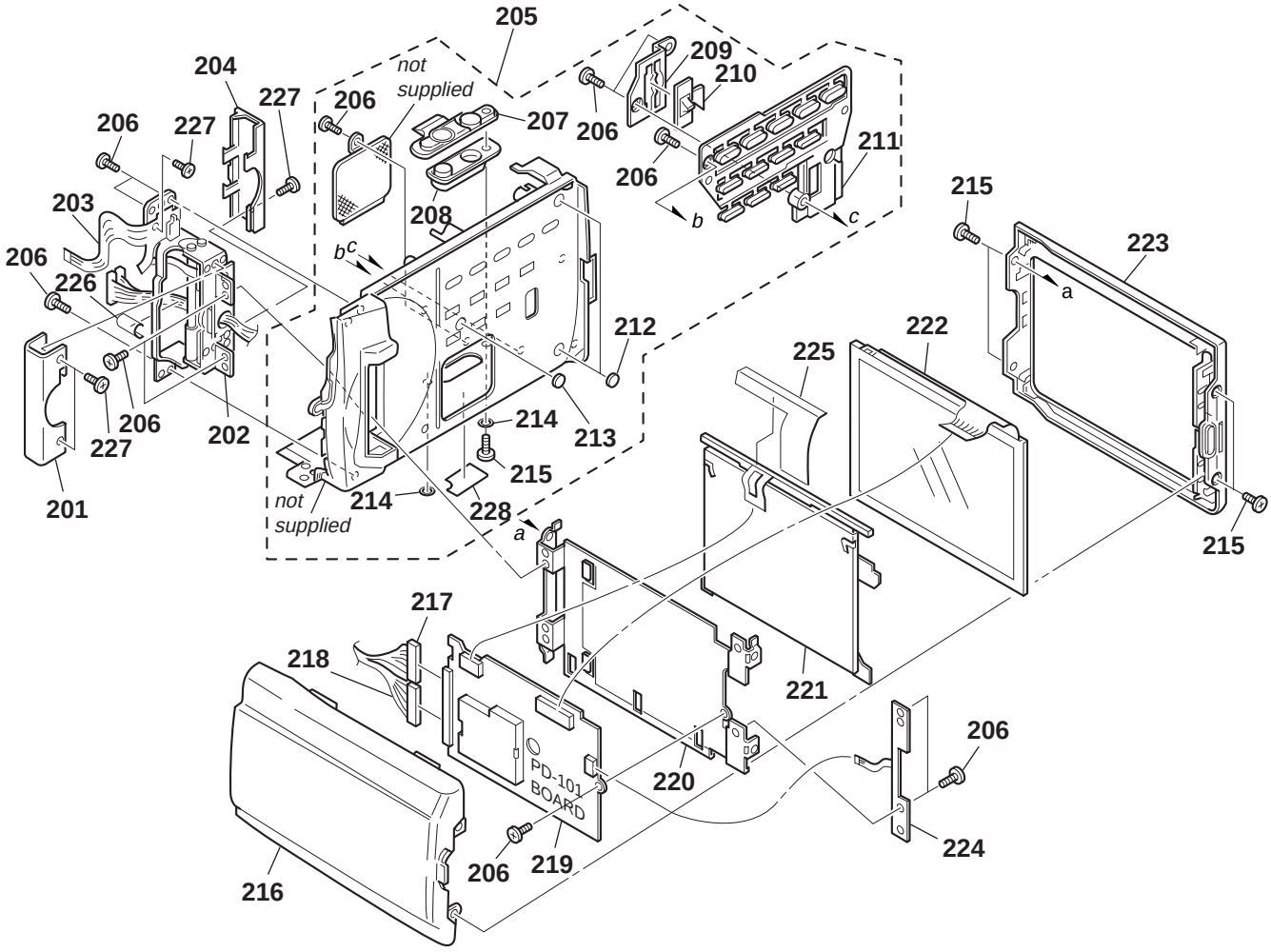
Ref. No.	Part No.	Description	Remarks
115	3-968-729-01	SCREW (M2), LOCK ACE, P2	
116	1-475-949-21	SWITCH BLOCK, CONTROL(FK-4880)	
117	3-051-904-01	FRAME, FK	
118	3-051-900-01	SHEET METAL (UPPER), STRAP	
119	1-774-867-31	CONNECTOR,EXTERNAL(HOT SHOE)8P	
120	3-051-903-01	RETAINER, SHOE	
121	3-051-871-01	BRACKET (FRONT), BELT	
122	X-3949-115-1	CABINET (L) ASSY (US,CND)	
122	X-3949-144-1	CABINET (L) ASSY (AEP)	
* 123	3-051-944-01	FOOT, RUBBER	
124	3-302-492-00	SPRING, COMPRESSION	
* 125	3-052-738-01	SPACER (JC)	
126	3-053-541-01	REINFORCEMENT, SHOE	

6-1-4. CABINET (R) SECTION



Ref. No.	Part No.	Description	Remarks
* 151	3-051-920-01	LID, LCD HINGE	
152	1-670-981-21	FP-13 FLEXIBLE BOARD	
153	3-052-482-01	EJECTOR, CARD	
* 154	3-051-918-01	COVER, PM	
155	3-989-735-41	SCREW (M1.7), LOCK ACE, P2	
156	3-051-931-01	ACE (M2), LOCK	
157	1-670-977-21	FP-9 FLEXIBLE BOARD	
158	A-7073-678-A	CK-80 BOARD, COMPLETE	
* 159	X-3948-943-1	PLATE ASSY, SP FIXED	
160	1-505-619-11	SPEAKER (2.0 CM)	
* 161	3-051-906-01	HOLDER, SP	
162	1-958-983-11	HARNESS (CP-81) 12PIN	
163	1-958-984-11	HARNESS (CP-82) 13PIN	
164	X-3949-119-1	PLATE ASSY, BLIND	
165	X-3948-945-1	SLIDE ASSY, PM	
166	3-968-729-01	SCREW (M2), LOCK ACE, P2	
167	1-670-983-21	FP-16 FLEXIBLE BOARD	

6-1-5. LCD PANEL SECTION

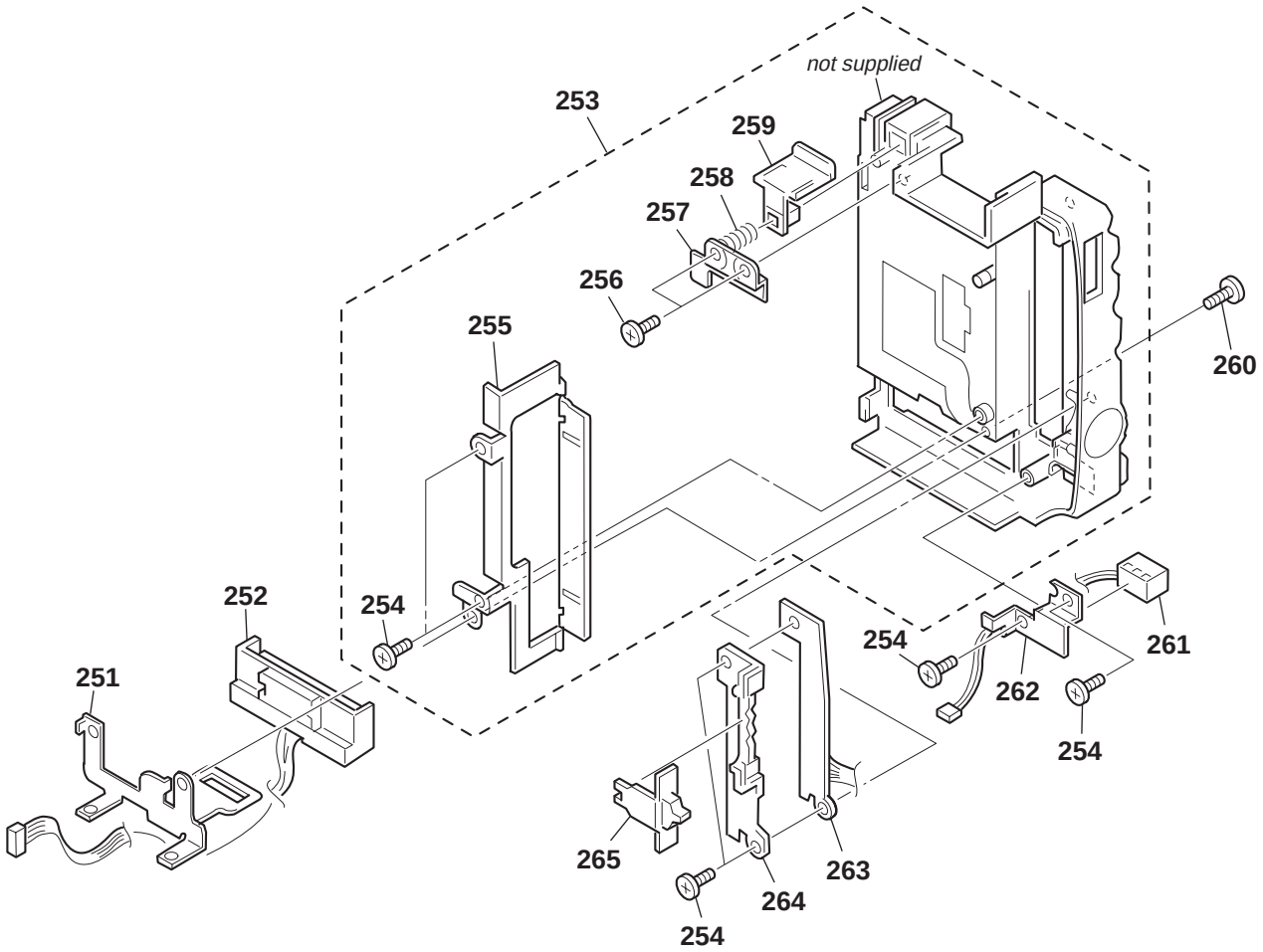


Ref. No.	Part No.	Description	Remarks
201	3-051-921-11	COVER (FRONT), HINGE	
202	X-3948-944-1	HINGE ASSY	
203	1-670-983-21	FP-16 FLEXIBLE BOARD	
204	3-051-922-11	COVER (REAR), HINGE	
205	X-3949-110-1	CABINET (R) ASSY	
206	3-968-729-51	SCREW (M2), LOCK ACE, P2	
207	3-051-840-01	SCREW, TRIPOD	
208	3-051-842-01	HOLDER, TRIPOD SCREW	
209	3-051-839-01	COVER, SS MODE KNOB	
210	3-051-835-01	KNOB, SS MODE	
211	3-051-834-01	BUTTON, R	
212	3-959-978-02	CUSHION, PANEL	
213	3-052-521-01	CUSHION (2), PANEL	
214	3-051-848-01	WASHER, TRIPOD SCREW	

Ref. No.	Part No.	Description	Remarks
215	3-968-729-01	SCREW (M2), LOCK ACE, P2	
216	X-3949-113-1	CABINET (C) ASSY, P	
217	1-958-983-11	HARNESS (CP-81)	
218	1-958-984-11	HARNESS (CP-82)	
219	A-7073-679-A	PD-101 BOARD, COMPLETE	
220	X-3948-961-1	FRAME ASSY, PANEL	
⚠221	1-517-754-21	TUBE, FLUORESCENT,COLD CATHODE	
222	1-803-274-21	MODULE, CRYSTAL INDICATION	
223	X-3949-114-1	CABINET (M) ASSY, P	
224	1-670-986-21	FP-19 FLEXIBLE BOARD	
* 225	3-051-932-01	COVER, LIGHT GUIDE FLEXIBLE	
* 226	3-846-067-21	SPACER (C)	
227	3-989-735-41	SCREW (M1.7), LOCK ACE, P2	
228	3-052-895-01	BLIND, STAND	

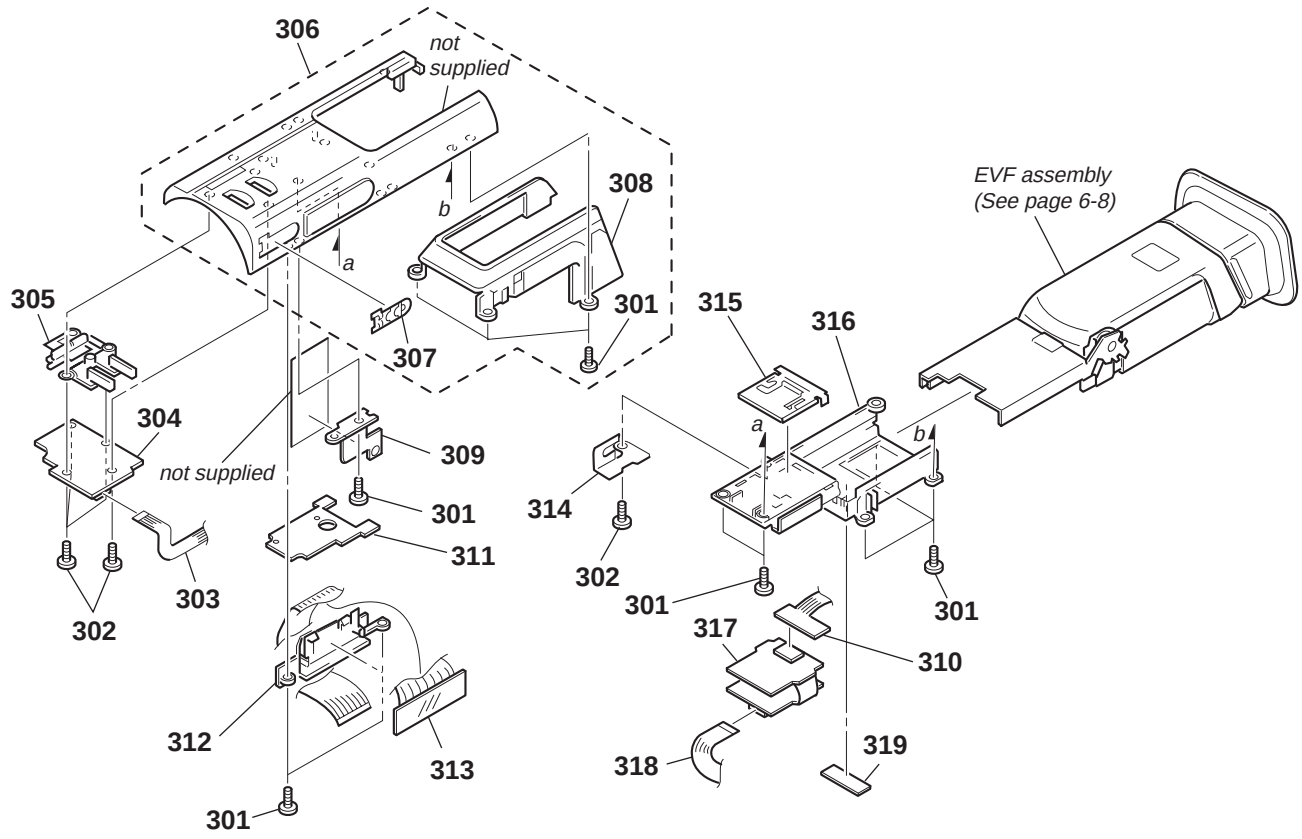
Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1-6. BATTERY PANEL SECTION



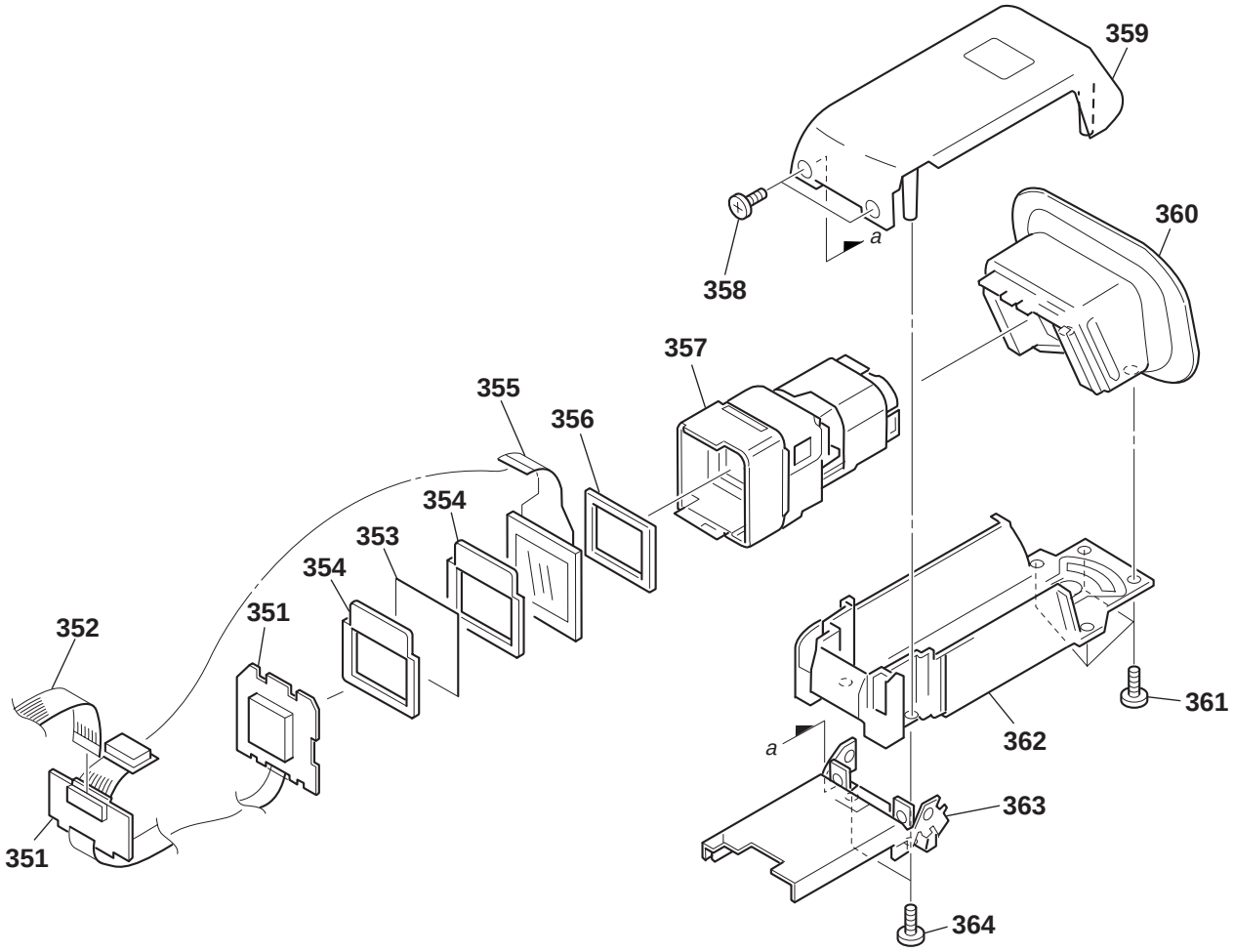
Ref. No.	Part No.	Description	Remarks
251	3-051-905-01	SHEET METAL (LOWER), STRAP	
252	1-694-411-11	TERMINAL BOARD, BATTERY	
253	X-3949-001-1	PANEL ASSY, BATTERY	
254	3-948-339-01	SCREW, TAPPING	
255	X-3948-957-1	DOOR ASSY, PM	
256	3-713-791-71	SCREW (M1.7X4)	
257	3-051-951-01	COVER, BT LOCK	
258	3-052-017-01	SPRING, BT LOCK	
259	3-051-950-01	CLAW, BT LOCK	
260	3-968-729-01	SCREW (M2), LOCK ACE, P2	
261	1-785-247-11	CONNECTOR, DC-IN	
262	3-051-915-01	PLATE, DC FIXED	
263	1-670-985-21	FP-18 FLEXIBLE BOARD	
264	3-051-917-01	HOLDER, AL KNOB	
265	3-051-916-01	KNOB, AL	

6-1-7. CABINET (UPPER) SECTION



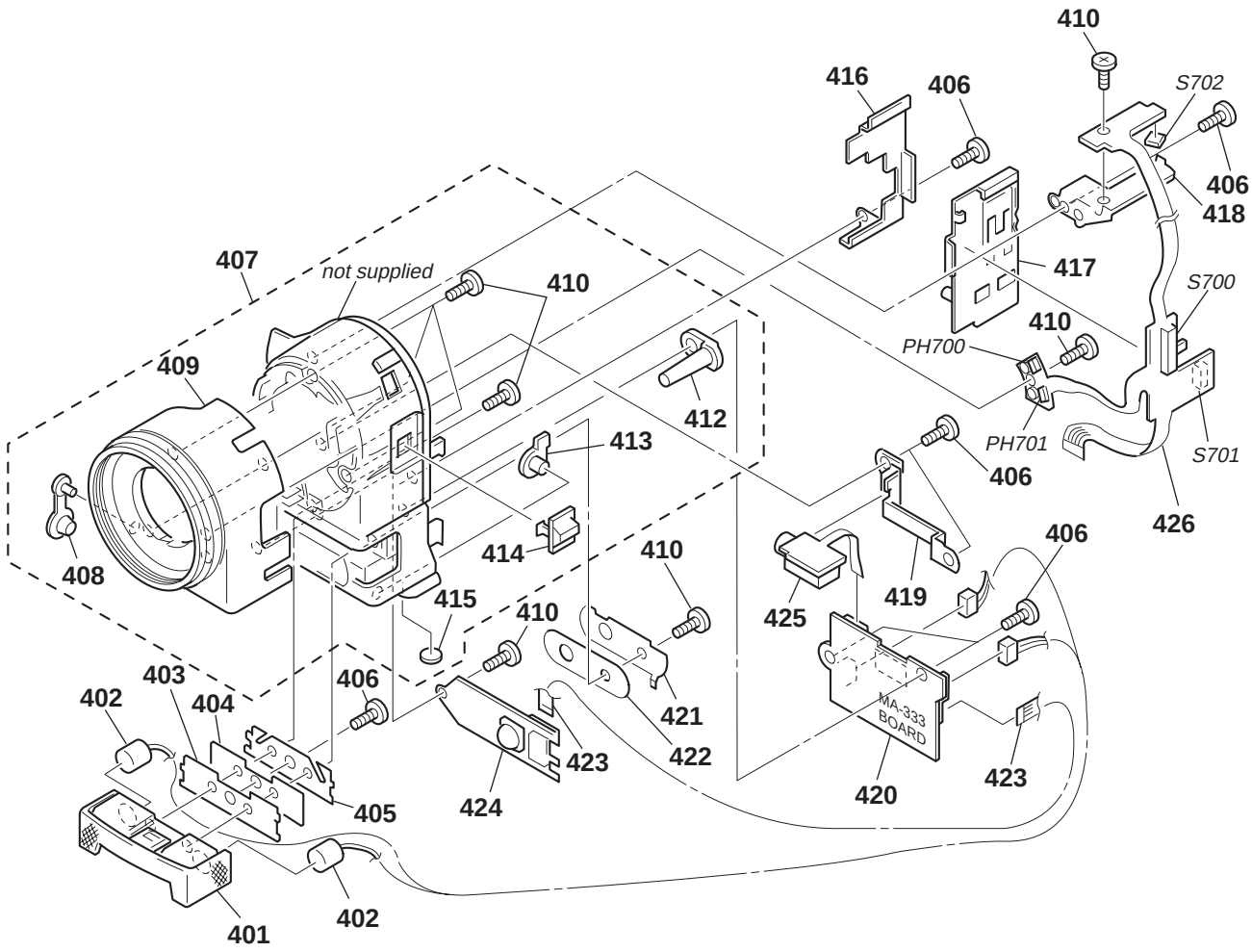
Ref. No.	Part No.	Description	Remarks
301	3-968-729-01	SCREW (M2), LOCK ACE, P2	
302	3-968-729-51	SCREW (M2), LOCK ACE, P2	
303	1-670-984-11	FP-17 FLEXIBLE BOARD	
304	A-7073-684-A	ED-48 BOARD, COMPLETE	
305	3-051-892-01	BUTTON, EDIT	
306	X-3949-111-1	CABINET (UPPER) ASSY	
307	3-963-933-01	EMBLEM, CCD	
* 308	3-051-869-01	COVER, SIDE	
* 309	3-051-895-01	JOINT, U-R	
310	1-670-987-21	FP-20 FLEXIBLE BOARD	
311	3-051-894-01	RETAINER, SLIDER	
* 312	3-051-893-01	RETAINER, LCD	
313	A-7093-972-A	PANEL BLOCK ASSY, INDICATION	
* 314	3-051-898-01	PLATE, SLIDER GROUND	
315	3-051-923-01	PLATE, VF CLICK	
316	3-051-897-01	BASE, VF SLIDE	
317	A-7073-682-A	VF-121 BOARD, COMPLETE	
318	1-670-978-11	FP-10 FLEXIBLE BOARD	
319	3-831-441-11	CUSHION	

6-1-8. EVF SECTION



Ref. No.	Part No.	Description	Remarks
351	A-7073-683-A	LB-55 BOARD, COMPLETE	
352	1-670-987-21	FP-20 FLEXIBLE BOARD	
* 353	3-988-563-01	ILLUMINATOR (458), BL	
354	3-989-416-01	CUSHION (458), LCD	
355	8-753-023-51	LCX027AK-1	
* 356	3-960-302-11	CUSHION (1), LCD	
357	X-3948-473-1	LENS ASSY (458), VF	
358	3-968-729-01	SCREW (M2), LOCK ACE, P2	
359	3-051-896-01	CABINET (UPPER), EVF	
360	X-3949-117-1	EYE CUP ASSY	
361	3-713-791-01	SCREW (M1.7X5), TAPPING, P2	
362	X-3948-962-1	CABINET (LOWER) ASSY, EVF	
363	X-3948-963-1	SLIDER ASSY, VF	
364	3-713-791-21	SCREW (M1.7X8), TAPPING, P2	

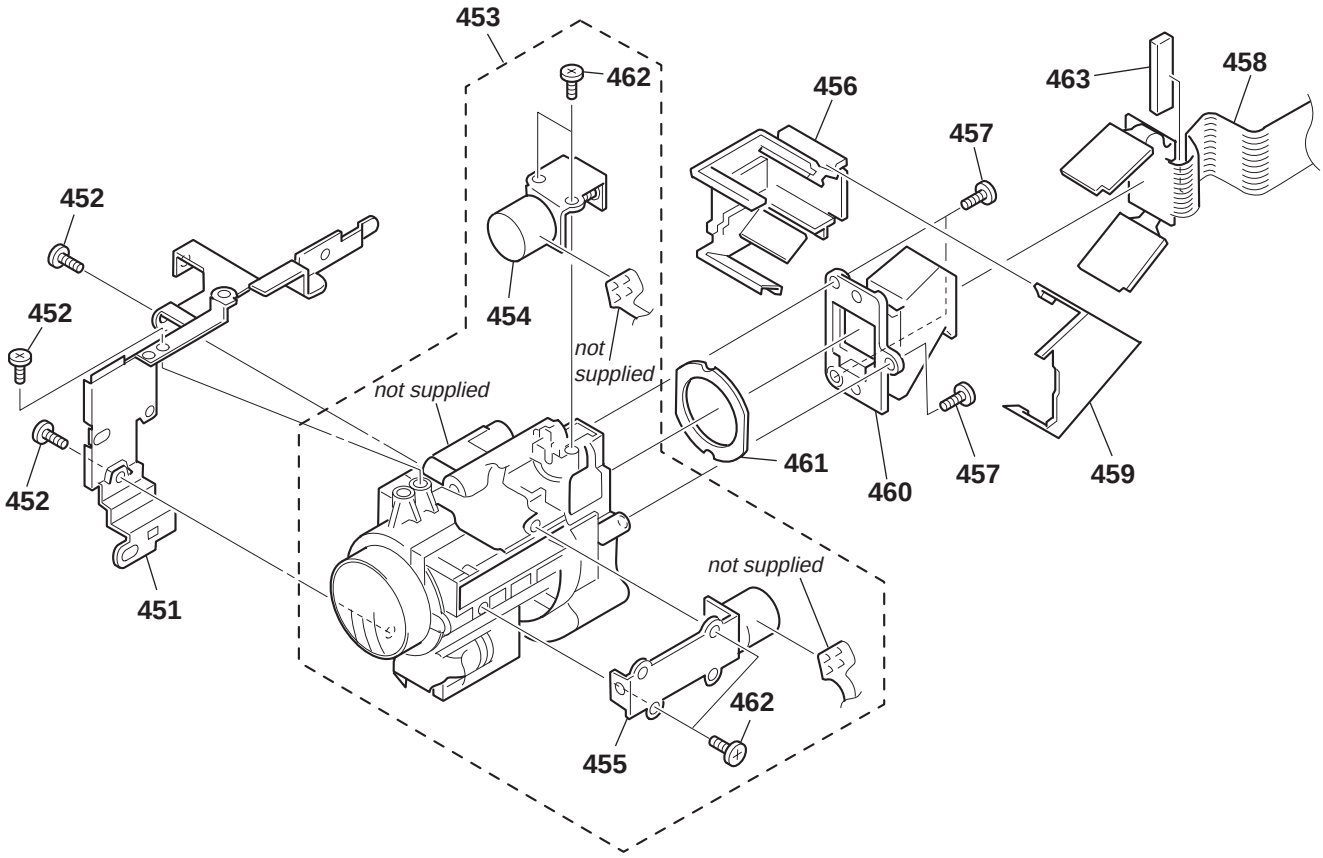
6-1-9. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remarks
401	X-3948-950-1	GRILLE ASSY, MICROPHONE	
402	1-418-014-11	MICROPHONE UNIT	
403	3-051-926-01	LID, MICROPHONE	
* 404	3-051-927-01	PLATE, MICROPHONE CLOSE UP	
405	3-051-928-01	PLATE, VIBRATION PROOF	
406	3-948-339-01	SCREW, TAPPING	
407	X-3949-112-1	PANEL ASSY, FRONT	
408	3-051-942-01	LID, MICROPHONE JACK	
409	3-051-907-21	COVER, FRONT	
410	3-968-729-51	SCREW (M2), LOCK ACE, P2	
* 412	3-051-912-01	TALLY, FRONT	
* 413	3-051-940-01	WINDOW, SIDE IR	
414	3-051-935-01	MF KNOB	
* 415	3-051-944-01	FOOT, RUBBER	
* 416	3-051-929-01	REINFORCEMENT, MF	
417	X-3948-949-1	RETAINER ASSY, MF	

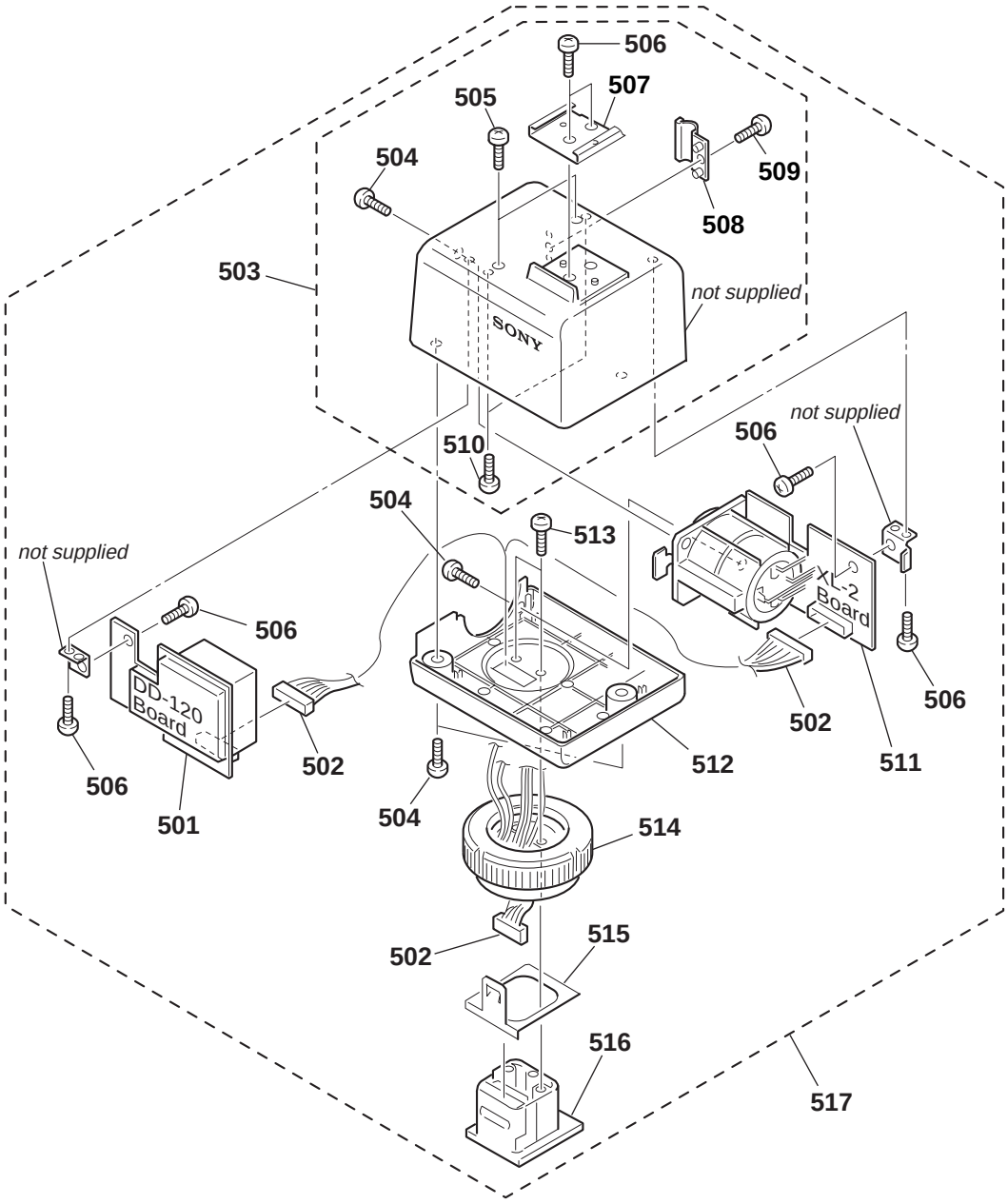
Ref. No.	Part No.	Description	Remarks
418	X-3948-954-1	RETAINER ASSY, ND	
* 419	3-051-887-01	RETAINER, JACK	
420	A-7073-734-A	MA-333(D) BOARD, COMPLETE	
* 421	3-051-888-01	RETAINER, MICROPHONE	
422	3-051-891-01	CUSHION, MICROPHONE RETAINER	
423	1-670-991-11	FP-37 FLEXIBLE BOARD	
424	A-7073-735-A	RI-10(D) BOARD, COMPLETE	
425	1-670-989-21	FP-22 FLEXIBLE BOARD	
426	1-670-988-21	FP-21 FLEXIBLE BOARD	
		(Including S700, S701, S702)	
PH700	8-749-014-54	HIC CNA1312K01S0	
PH701	8-749-014-54	HIC CNA1312K01S0	
S700	1-771-487-21	SWITCH, SLIDE	
S701	1-762-851-21	SWITCH, TACT	
S702	1-762-851-21	SWITCH, TACT	

6-1-10. LENS BLOCK SECTION



Ref. No.	Part No.	Description	Remarks
451	3-051-924-01	FRAME, LENS	
452	3-948-339-01	SCREW, TAPPING	
453	1-758-174-11	LENS, ZOOM (VCL-4312VA)	
454	3-709-428-01	MOTOR, FOCUS	
455	3-709-429-01	MOTOR, ZOOM	
456	X-3948-952-1	COVER (L) ASSY, PRISM	
457	3-713-791-61	SCREW (M1.7X7), TAPPING, P2	
458	A-7073-676-A	CD-202 BOARD, COMPLETE	
459	X-3948-953-1	COVER (R) ASSY, PRISM	
460	A-7093-999-A	PRISM ASSY (PD100) (Including three CCD imagers)	
460	A-7030-948-A	PRISM ASSY (PD100P) (Including three CCD imagers)	
461	3-989-731-01	RUBBER, SEAL	
462	3-343-254-41	SCREW (M1.7X3.5), TAPPING	
* 463	3-053-354-01	CUSHION, CD FLEXIBLE	

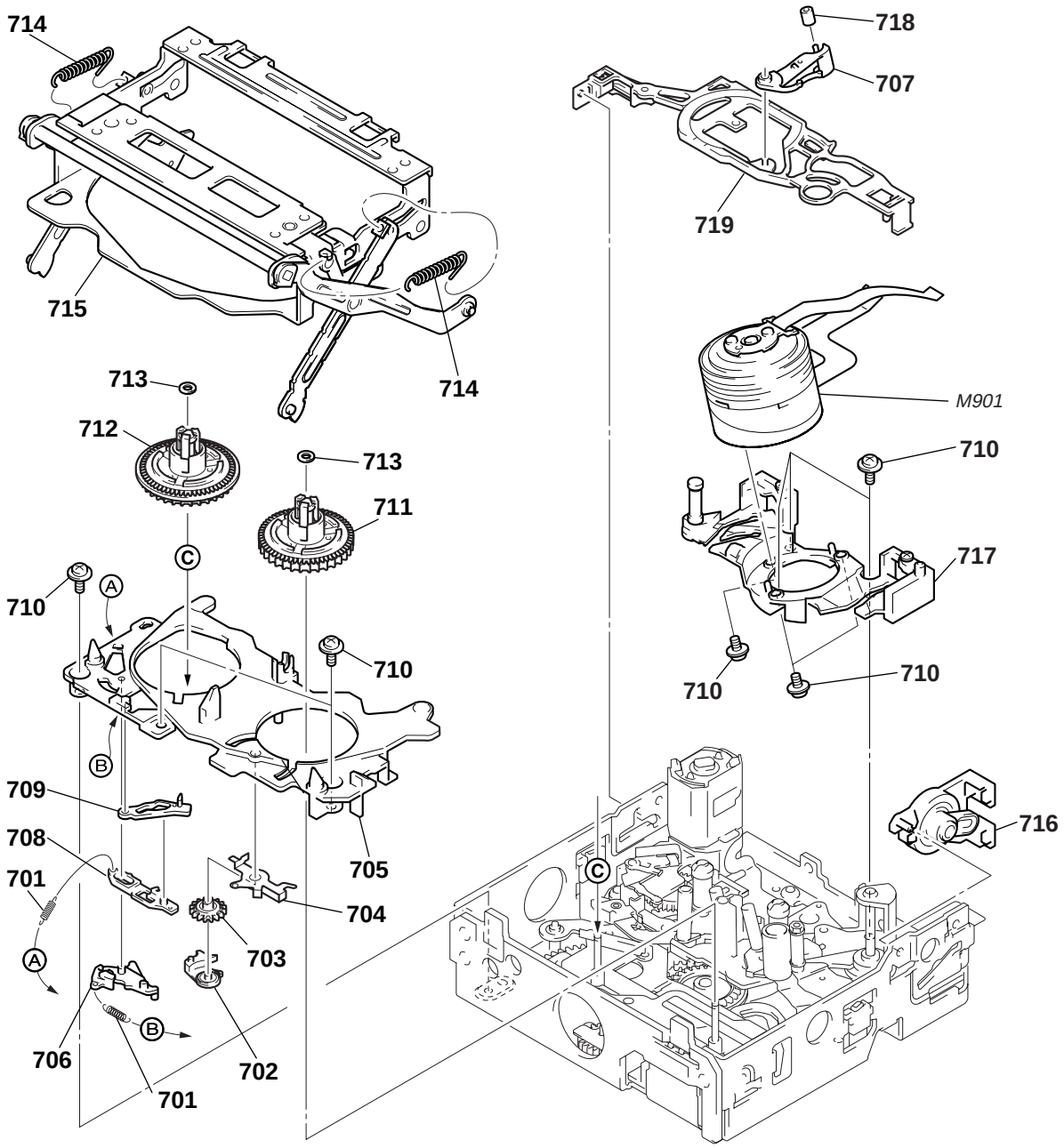
6-1-11. XLR BLOCK



Ref. No.	Part No.	Description	Remarks
501	A-7073-737-A	DD-120 MOUNT	
502	1-959-236-11	HARNESS (XL-51)	
503	X-3949-116-1	BOX (UPPER) ASSY, TERMINAL	
504	7-627-854-38	SCREW,PRECISION +P 2.6X5 TYPE3	
505	7-682-548-09	SCREW +B 3X8	
506	3-968-729-51	SCREW (M2X3), LOCK ACE, P2	
507	3-724-511-02	SHOE, ACCESSORY	
* 508	3-678-684-01	HOLDER, CABLE	
509	7-627-556-38	SCREW +P 2.6X4.0	

Ref. No.	Part No.	Description	Remarks
510	3-719-695-21	SCREW (M1.7X3.5), SPECIAL HEAD	
511	A-7073-738-A	XL-2 MOUNT	
512	3-052-847-01	BOX (LOWER), TERMINAL	
513	2-370-905-51	SCREW (B) (2X12), TAPPING	
514	X-3949-340-1	RETAINER ASSY, SHOE	
515	X-3949-216-1	PLATE ASSY, HOT SHOE	
516	1-774-868-11	PLUG, CONNECTOR 8P	
517	A-7094-044-A	XLR BLOCK ASSY	

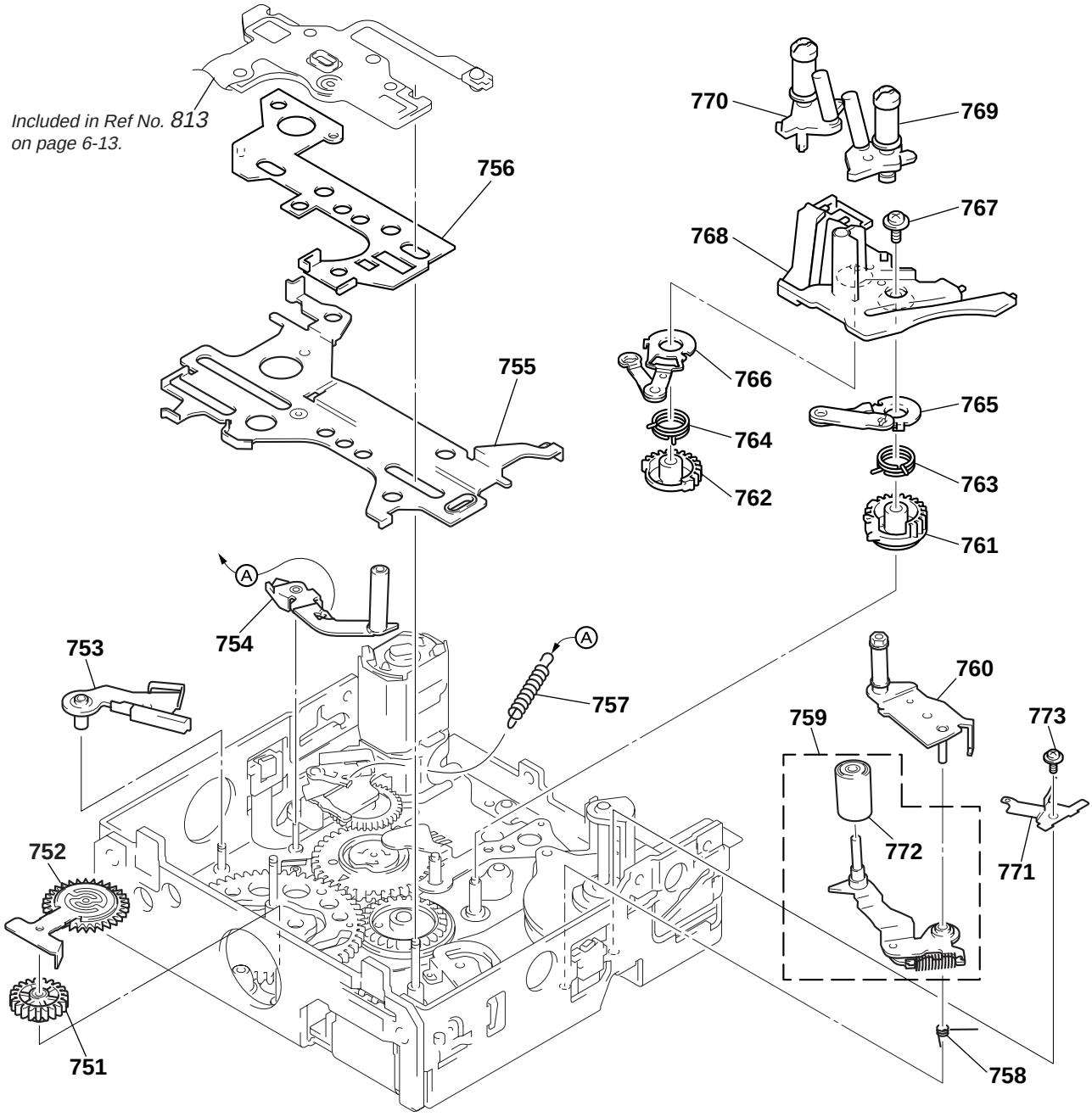
6-1-12. CASSETTE COMPARTMENT, DRUM AND REEL TABLE ASSEMBLY



Ref. No.	Part No.	Description	Remarks
701	3-988-312-01	SPRING, EXTENSION	
702	3-988-220-01	BRAKE (T)	
703	3-988-221-01	GEAR (T), BRAKE	
704	3-988-222-01	SPRING (T), BRAKE	
705	3-988-215-02	BASE, CASSETTE	
706	3-988-217-01	ARM (S), RESET	
707	3-988-281-02	ARM, HC	
708	3-988-219-01	RACK (S), BRAKE	
709	3-988-218-01	BRAKE (S)	
710	3-947-503-01	SCREW (M1.4X2.5)	

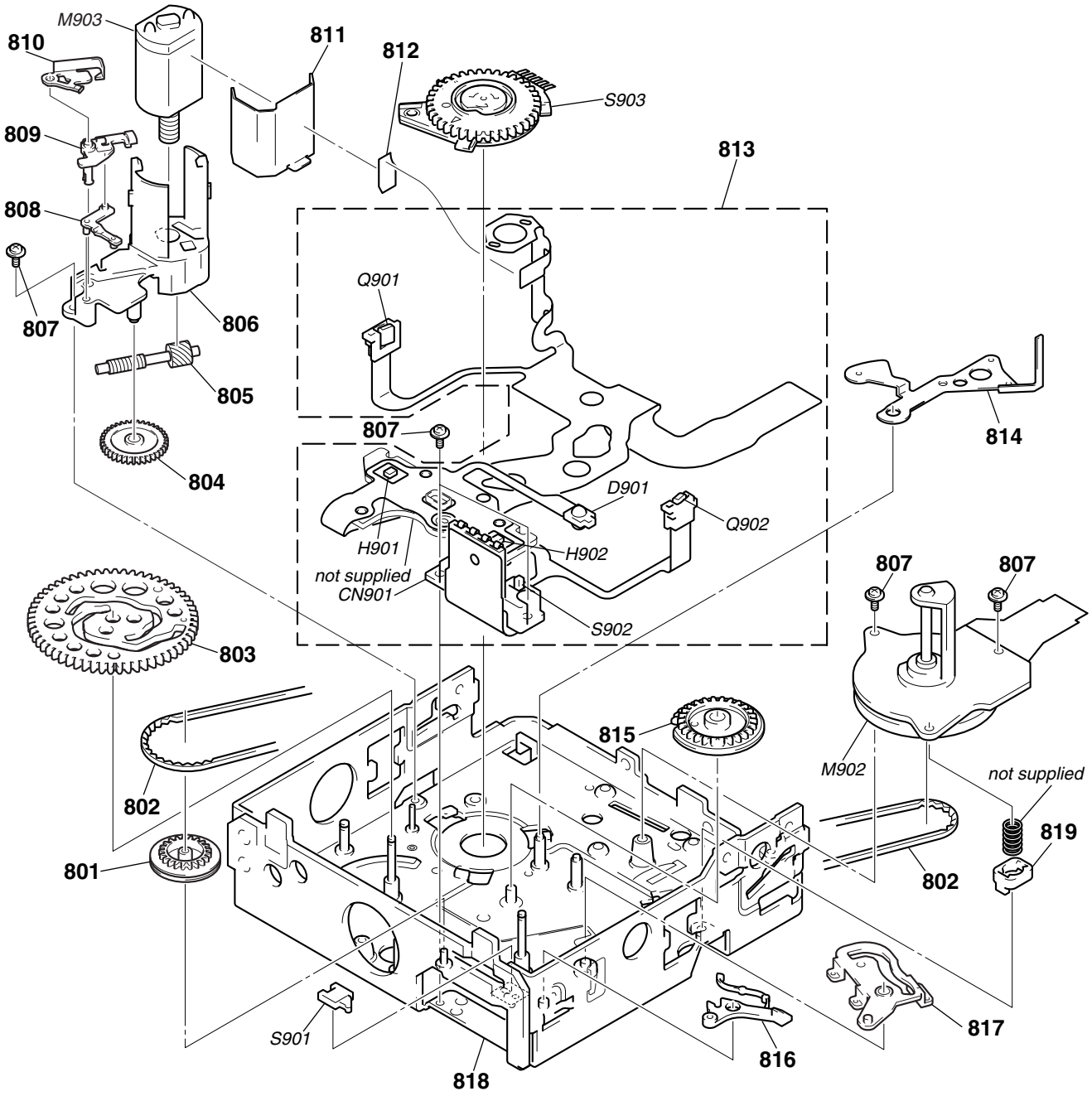
Ref. No.	Part No.	Description	Remarks
711	X-3948-445-1	TABLE (T) ASSY, REEL	
712	X-3948-444-1	TABLE (S) ASSY, REEL	
713	3-989-465-01	WASHER, STOPPER	
714	3-988-298-01	SPRING EXTENSION	
715	X-3948-441-2	CASSETTE COMPARTMENT ASSY	
716	X-3948-443-2	DAMPER ASSY	
717	A-7093-612-A	DRUM BASE BLOCK ASSY	
718	3-988-282-01	ROLLER, HC	
719	3-988-283-01	STOPPER, TAPE FALL	
M901	A-7048-889-A	DRUM ASSY (DEH-14B-R)	

6-1-13. TAPE GUIDE, PINCH SLIDER ASSEMBLY AND BRAKE SLIDER ASSEMBLY



Ref. No.	Part No.	Description	Remarks
751	3-988-263-01	GEAR, RELAY	
752	X-3948-442-2	GEAR ASSY, GOOSENECK	
753	X-3948-435-2	PLATE ASSY, TG1 ADJUSTMENT	
754	X-3948-434-1	ARM ASSY, TG1	
755	X-3948-428-2	SLIDER ASSY, PINCH	
756	X-3948-766-1	SLIDER ASSY, BRAKE	
757	3-988-270-01	SPRING (TG1), TENSION COIL	
758	3-988-233-01	SPRING (TG7LD), TORSION	
759	X-3948-433-2	ARM ASSY, PINCH	
760	A-7093-501-A	ARM BLOCK ASSY, TG7	
761	3-988-257-01	GEAR (T), GL	
762	3-988-252-02	GEAR (S), GL	
763	3-988-258-01	SPRING (GLT), TORSION	
764	3-988-253-01	SPRING (GLS), TORSION	
765	X-3948-440-1	ARM (T) ASSY, GL	
766	X-3948-439-2	ARM (S) ASSY, GL	
767	3-947-503-01	SCREW (M1.4X2.5)	
768	3-988-242-01	RAIL, GUIDE	
769	X-3948-438-3	COASTER (T) ASSY	
770	X-3948-437-1	COASTER (S) ASSY	
771	3-988-690-02	SPRING, TG7 RETAINER	
772	X-3748-630-2	ROLLER ASSY (DIA. 5.6), PINCH	
773	3-053-083-01	SCREW	

6-1-14. EACH GEARS AND LOADING / CAPSTAN MOTOR ASSEMBLY



Ref. No.	Part No.	Description	Remarks
801	3-988-274-01	PULLEY, CONVERSION	
802	3-988-276-02	BELT, TIMING	
803	3-988-216-01	GEAR, CAM	
804	3-988-211-01	GEAR, DECELERATION	
805	3-988-210-01	SHAFT, WORM	
806	3-988-207-01	HOLDER, MOTOR	
807	3-947-503-01	SCREW (M1.4X2.5)	
808	3-988-303-01	ARM, SPRING HOOK DRIVING	
809	3-988-271-01	BASE, SPRING HOOK FULCRUM	
810	3-988-302-01	HOOK, TG1 SPRING	
811	3-988-208-01	SHIELD, MOTOR	
812	1-657-785-11	FP-248 FLEXIBLE BOARD	
813	A-7073-418-A	FP-594 BOARD, COMPLETE	
814	3-988-280-03	ARM, HC DRIVING	
815	3-988-239-01	GEAR, GL DRIVING	

Ref. No.	Part No.	Description	Remarks
816	3-988-223-01	ARM, EJECT	
817	3-988-224-01	ARM, PINCH PRESS	
818	X-3948-431-2	CHASSIS ASSY	
819	3-050-170-01	HOLDER	
CN901	1-784-723-11	PIN, CONNECTOR 4P	
D901	8-719-067-13	DIODE GL453K	
H901	8-719-061-28	DIODE HW-105C-FT-V (T REEL SENSOR)	
H902	8-719-061-28	DIODE HW-105C-FT-V (S REEL SENSOR)	
M902	8-835-606-01	MOTOR, DC SCD15A/C-NP (CAPSTAN)	
M903	X-3948-346-1	MOTOR ASSY, L (LOADING)	
Q901	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE END)	
Q902	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE TOP)	
S901	1-771-039-51	SWITCH, PUSH (C IN SW)	
S902	1-572-719-32	SWITCH, PUSH (1 KEY)(REC PROOF)	
S903	1-771-325-11	ENCODER, ROTARY (SWITCH)(MODE)	

6-2. ELECTRICAL PARTS LIST

NOTE:

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- Abbreviation
  CND: Canadian model
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

Ref. No.	Part No.	Description			Remarks
	A-7073-676-A	CD-202 BOARD, COMPLETE			
		**********			
		(Ref.No.:10,000 Series)			
		(IC100,101,102 is not included in this complete board.)			
		< CAPACITOR >			
C100	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C101	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C102	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C103	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C105	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C106	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C107	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C108	1-113-994-11	TANTAL. CHIP	6.8uF	20%	16V
C110	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C111	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C112	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C115	1-113-994-11	TANTAL. CHIP	6.8uF	20%	16V
C117	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C118	1-113-994-11	TANTAL. CHIP	6.8uF	20%	16V
C119	1-164-360-11	CERAMIC CHIP	0.1uF		16V
		< CONNECTOR >			
CN100	1-785-433-21	CONNECTOR, BOARD TO BOARD 40P			
		< COIL >			
L100	1-412-963-11	INDUCTOR 100uH			
L101	1-412-963-11	INDUCTOR 100uH			
L102	1-412-963-11	INDUCTOR 100uH			
		< TRANSISTOR >			
Q100	8-729-117-73	TRANSISTOR 2SC4178-F13F14-T1			
Q101	8-729-117-73	TRANSISTOR 2SC4178-F13F14-T1			
Q102	8-729-117-73	TRANSISTOR 2SC4178-F13F14-T1			
		< RESISTOR >			
R100	1-216-864-11	METAL CHIP	0	5%	1/16W
R101	1-216-864-11	METAL CHIP	0	5%	1/16W
R102	1-216-864-11	METAL CHIP	0	5%	1/16W
R103	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R104	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R105	1-216-829-11	METAL CHIP	4.7K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
	A-7073-678-A	CK-80 BOARD, COMPLETE			
		**********			
		(Ref.No.:10,000 Series)			
	3-051-919-01	SHEET, LI PROTECTION			
		< BATTERY >			
⚠BT7200	1-528-724-21	BATTERY, V/L RICHARGEABL			
		< CAPACITOR >			
C7200	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		< CONNECTOR >			
CN7200	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P			
CN7201	1-779-065-11	PIN, CONNECTOR (PC BOARD) 13P			
CN7202	1-691-370-11	CONNECTOR, FFC/FPC 6P			
CN7203	1-766-336-21	CONNECTOR, FFC/FPC 6P			
CN7204	1-784-939-11	CONNECTOR, BOARD TO BOARD 60P			
* CN7205	1-695-320-21	PIN, CONNECTOR (1.5MM)(SMD) 2P			
CN7207	1-766-354-21	CONNECTOR, FFC/FPC 24P			
CN7209	1-785-239-11	CONNECTOR, EXTERNAL			
CN7210	1-764-680-21	CONNECTOR, FFC/FPC (ZIF) 8P			
		< DIODE >			
D7200	8-719-064-61	DIODE 01BZA8.2(TE85L)			
D7201	8-719-064-61	DIODE 01BZA8.2(TE85L)			
D7202	8-719-404-49	DIODE MA111-TX			
D7203	8-719-420-14	DIODE MA8082-TX			
D7204	8-719-064-61	DIODE 01BZA8.2(TE85L)			
D7206	8-719-064-61	DIODE 01BZA8.2(TE85L)			
D7207	8-719-064-61	DIODE 01BZA8.2(TE85L)			
D7211	8-719-064-61	DIODE 01BZA8.2(TE85L)			
D7212	8-719-064-61	DIODE 01BZA8.2(TE85L)			
D7214	8-719-064-61	DIODE 01BZA8.2(TE85L)			
D7215	8-719-064-61	DIODE 01BZA8.2(TE85L)			
		< IC >			
IC7200	8-759-494-53	IC BU9729K-E2			
		< TRANSISTOR >			
Q7200	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX			
Q7201	8-729-804-41	TRANSISTOR 2SB1122-ST-TD			

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R7200	1-216-809-11	METAL CHIP	100	5%	1/16W
R7201	1-216-864-11	METAL CHIP	0	5%	1/16W
R7202	1-216-833-11	METAL CHIP	10K	5%	1/16W
R7203	1-216-833-11	METAL CHIP	10K	5%	1/16W
R7204	1-216-833-11	METAL CHIP	10K	5%	1/16W
R7205	1-216-833-11	METAL CHIP	10K	5%	1/16W
R7206	1-216-833-11	METAL CHIP	10K	5%	1/16W
R7207	1-216-833-11	METAL CHIP	10K	5%	1/16W
R7208	1-216-855-11	METAL CHIP	680K	5%	1/16W
R7209	1-216-864-11	METAL CHIP	0	5%	1/16W
R7210	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R7211	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R7212	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R7213	1-216-841-11	METAL CHIP	47K	5%	1/16W
R7214	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R7215	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R7216	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R7217	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R7218	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R7219	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R7220	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R7221	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R7222	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R7223	1-216-837-11	METAL CHIP	22K	5%	1/16W
R7224	1-216-837-11	METAL CHIP	22K	5%	1/16W
R7225	1-216-837-11	METAL CHIP	22K	5%	1/16W
R7227	1-216-809-11	METAL CHIP	100	5%	1/16W
R7228	1-216-833-11	METAL CHIP	10K	5%	1/16W
R7229	1-216-837-11	METAL CHIP	22K	5%	1/16W
R7230	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R7231	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R7232	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R7233	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R7234	1-216-809-11	METAL CHIP	100	5%	1/16W
R7236	1-216-864-11	METAL CHIP	0	5%	1/16W
		< SWITCH >			
S7200	1-762-851-21	SWITCH, KEY BOARD (MEMORY +)			
S7201	1-762-851-21	SWITCH, KEY BOARD (END SEARCH)			
S7202	1-762-851-21	SWITCH, KEY BOARD (TITLE)			
S7203	1-762-851-21	SWITCH, KEY BOARD (MEMORY -)			
S7204	1-762-851-21	SWITCH, KEY BOARD (DISPLAY)			
S7205	1-762-851-21	SWITCH, KEY BOARD (DIGITAL EFFECT)			
S7206	1-762-851-21	SWITCH, KEY BOARD (MEMORY INDEX)			
S7207	1-762-851-21	SWITCH, KEY BOARD (MENU)			
S7208	1-762-851-21	SWITCH, KEY BOARD (PICTURE EFFECT)			
S7209	1-762-851-21	SWITCH, KEY BOARD (MEMORY DELETE)			
S7210	1-762-648-21	SWITCH, SLIDE (ZEBRA)			
S7211	1-762-851-21	SWITCH, KEY BOARD (MEMORY PLAY)			
S7212	1-762-851-21	SWITCH, KEY BOARD (DATA CODE)			
S7213	1-762-851-21	SWITCH, KEY BOARD (RESET)			
S7214	1-771-487-21	SWITCH, SLIDE (AUTO LOCK/HOLD)			
S7219	1-762-649-21	SWITCH, ROTARY (SEL/PUSH EXEC)			

Ref. No.	Part No.	Description			Remarks
	A-7073-737-A	DD-120 BOARD, COMPLETE ********** (Ref.No.:9,000 Series)			
		< CAPACITOR >			
C202	1-113-985-11	TANTAL. CHIP	10uF	20%	20V
C203	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C204	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C205	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C206	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C207	1-124-598-11	ELECT	22uF	20%	25V
C210	1-110-618-11	ELECT	12uF	20%	63V
C211	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C212	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C213	1-110-618-11	ELECT	12uF	20%	63V
C214	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C216	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN201	1-691-550-11	PIN, CONNECTOR (1.5MM)(SMD) 3P			
		< DIODE >			
D201	8-719-987-21	DIODE SB02-09CP-TB			
		< IC >			
IC201	8-759-521-35	IC TL5001CDR			
		< COIL >			
L201	1-412-058-11	INDUCTOR CHIP 10uH			
L202	1-416-906-11	INDUCTOR 33uH			
L203	1-414-405-11	INDUCTOR 150uH			
		< TRANSISTOR >			
Q201	8-729-033-65	TRANSISTOR 2SJ204-T1B			
Q202	8-729-117-32	TRANSISTOR 2SC4177-T1L5L6			
Q203	8-729-140-63	TRANSISTOR 2SA1611T1-M5M6			
Q204	8-729-042-92	TRANSISTOR 2SK1470-TD			
Q205	8-729-117-32	TRANSISTOR 2SC4177-T1L5L6			
Q206	8-729-117-32	TRANSISTOR 2SC4177-T1L5L6			
Q207	8-729-117-32	TRANSISTOR 2SC4177-T1L5L6			
Q208	8-729-117-32	TRANSISTOR 2SC4177-T1L5L6			
		< RESISTOR >			
R201	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R202	1-216-847-11	METAL CHIP	150K	5%	1/16W
R203	1-216-846-11	METAL CHIP	120K	5%	1/16W
R204	1-216-849-11	METAL CHIP	220K	5%	1/16W
R205	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R206	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R208	1-218-881-11	RES,CHIP	27K	0.50%	1/16W
R209	1-218-877-11	RES,CHIP	18K	0.50%	1/16W
R210	1-218-847-11	RES,CHIP	1K	0.50%	1/16W
R211	1-216-809-11	METAL CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R212	1-216-864-11	METAL CHIP	0	5%	1/16W
R213	1-218-865-11	RES,CHIP	5.6K	0.50%	1/16W
R214	1-216-853-11	METAL CHIP	470K	5%	1/16W
R215	1-216-833-11	METAL CHIP	10K	5%	1/16W
R216	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R217	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R218	1-216-845-11	METAL CHIP	100K	5%	1/16W
R219	1-216-841-11	METAL CHIP	47K	5%	1/16W

A-7073-684-A ED-48 BOARD, COMPLETE
****
(Ref.No.:10,000 Series)

< CONNECTOR >

CN7000 1-573-346-21 CONNECTOR, FFC/FPC 6P

< DIODE >

D7000 8-719-404-49 DIODE MA111-TX
D7001 8-719-420-14 DIODE MA8082-TX

< RESISTOR >

R7000	1-216-833-11	METAL CHIP	10K	5%	1/16W
R7001	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R7002	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R7003	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R7004	1-216-831-11	METAL CHIP	6.8K	5%	1/16W

< SWITCH >

S7000 1-762-851-21 SWITCH, KEY BOARD (FADER)
S7001 1-762-851-21 SWITCH, KEY BOARD (BACK LIGHT)
S7002 1-762-851-21 SWITCH, KEY BOARD (EDITSEARCH -)
S7003 1-762-851-21 SWITCH, KEY BOARD (EDITSEARCH +)

1-670-988-21 FP-21 FLEXIBLE BOARD
****
(Ref.No.:10,000 Series)
(S700,701,702 is included in this flexible board.)

< PHOTO INTERUPTER >

PH700 8-749-014-54 HIC CNA1312K01S0
PH701 8-749-014-54 HIC CNA1312K01S0

A-7073-418-A FP-594 FLEXIBLE BOARD
****
(Ref.No.:9,000 Series)

< CONNECTOR >

CN001 1-784-723-11 PIN, CONNECTOR 4P

< DIODE >

D901 8-719-067-13 DIODE GL453K

< HOLE ELEMENT >

H901 8-719-061-28 DIODE HW-105-FT-V (S REEL)
H902 8-719-061-28 DIODE HW-105-FT-V (T REEL)

< TRANSISTOR >

Q901 8-729-907-25 PHOTO TRANSISTOR PT4850F (TAPE END)
Q902 8-729-907-25 PHOTO TRANSISTOR PT4850F (TAPE TOP)

< SWITCH >

S901 8-771-039-51 SWITCH, PUSH (C IN SW)
S902 8-572-719-32 SWITCH, PUSH (1 KEY)(REC PROOF)
S903 8-771-325-11 ENCODER, ROTARY (SWITCH)(MODE)

A-7073-677-A JK-163 BOARD, COMPLETE
****
(Ref.No.:10,000 Series)

< CAPACITOR >

C7100	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C7101	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C7102	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C7103	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C7104	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V

< CONNECTOR >

CN7100 1-779-369-11 CONNECTOR, SQUARE TYPE(INDI)4P
CN7101 1-779-331-11 CONNECTOR, FFC/FPC 14P
CN7102 1-784-423-21 CONNECTOR, FFC/FPC (ZIF) 39P

< DIODE >

D7100 8-719-064-61 DIODE 01BZA8.2(TE85L)
D7102 8-719-064-61 DIODE 01BZA8.2(TE85L)
D7103 8-719-064-61 DIODE 01BZA8.2(TE85L)
D7104 8-719-064-61 DIODE 01BZA8.2(TE85L)
D7105 8-719-064-61 DIODE 01BZA8.2(TE85L)

D7106 8-719-064-61 DIODE 01BZA8.2(TE85L)

< FERRITE BEAD >

FB710	1-500-444-11	FERRITE	0UH
FB711	1-500-444-11	FERRITE	0UH
FB712	1-500-444-11	FERRITE	0UH
FB713	1-500-444-11	FERRITE	0UH
FB714	1-500-444-11	FERRITE	0UH
FB715	1-500-444-11	FERRITE	0UH
FB716	1-500-444-11	FERRITE	0UH
FB717	1-500-444-11	FERRITE	0UH
FB718	1-500-444-11	FERRITE	0UH
FB719	1-500-444-11	FERRITE	0UH

< JACK >

J7100 1-565-276-31 JACK, ULTRA SMALL 1P (LANC)
J7101 1-563-282-21 JACK, SMALL TYPE (HEADPHONES)
J7102 1-778-040-11 JACK, SMALL TYPE (AUDIO/VIDEO)

< COIL >

L7100 1-414-757-11 INDUCTOR 100uH
L7101 1-414-757-11 INDUCTOR 100uH
L7102 1-414-757-11 INDUCTOR 100uH
L7103 1-414-757-11 INDUCTOR 100uH
L7104 1-414-751-11 INDUCTOR 1uH

< RESISTOR >

R7102 1-216-864-11 METAL CHIP 0 5% 1/16W

Ref. No.	Part No.	Description			Remarks
		< VARISTOR >			
VDR711	1-801-862-11	VARISTOR, CHIP			
VDR714	1-801-862-11	VARISTOR, CHIP			
VDR715	1-801-862-11	VARISTOR, CHIP			
VDR717	1-801-862-11	VARISTOR, CHIP			
VDR718	1-801-862-11	VARISTOR, CHIP			
	A-7073-683-A	LB-55 BOARD, COMPLETE			
		**********			
		(Ref.No.:10,000 Series)			
		< CAPACITOR >			
C5201	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5202	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C5203	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C5205	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
⚠C5206	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
⚠C5207	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
⚠C5208	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
		< CONNECTOR >			
CN5201	1-784-421-11	CONNECTOR, FFC/FPC (ZIF) 27P			
CN5202	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P			
		< DIODE >			
⚠D5201	8-719-056-49	DIODE 1SS370(TE85L)			
		< COIL >			
L5201	1-412-031-11	INDUCTOR CHIP 47uH			
L5202	1-412-029-11	INDUCTOR CHIP 10uH			
		< FLUORECENT INDICATOR >			
⚠ND5201	1-517-758-11	TUBE, FLUORESCENT (0.55 INCH)			
		< TRANSISTOR >			
⚠Q5201	8-729-039-24	TRANSISTOR FX216-TL1			
		< RESISTOR >			
R5201	1-216-839-11	METAL CHIP	33K	5%	1/16W
R5202	1-216-809-11	METAL CHIP	100	5%	1/16W
		< TRANSFORMER >			
⚠T5201	1-426-848-51	TRANSFORMER, INVERTER			
	A-7073-734-A	MA-333(D) BOARD COMPLETE			
		**********			
		(Ref.No.:10,000 Series)			
		< CAPACITOR >			
C7300	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C7301	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C7305	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C7306	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C7307	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C7308	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C7309	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C7310	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C7312	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7313	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C7314	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C7315	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C7316	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C7317	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7318	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7319	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7320	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C7321	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C7322	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7324	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7325	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7326	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7328	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7329	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C7330	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C7331	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7332	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C7333	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C7338	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C7339	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C7340	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C7341	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C7342	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C7343	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C7345	1-115-156-11	CERAMIC CHIP	1uF		10V
C7346	1-115-156-11	CERAMIC CHIP	1uF		10V
C7347	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C7350	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C7351	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C7352	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C7353	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C7354	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C7355	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C7356	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C7357	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
* CN7300	1-695-320-21	PIN, CONNECTOR (1.5MM)(SMD) 2P			
CN7301	1-580-055-21	PIN, CONNECTOR 2P			
CN7302	1-766-340-21	CONNECTOR, FFC/FPC 10P			
CN7303	1-766-335-21	CONNECTOR, FFC/FPC 5P			
CN7304	1-779-337-11	CONNECTOR, FFC/FPC 26P			
CN7305	1-779-327-11	CONNECTOR, FFC/FPC 6P			
		< DIODE >			
D7300	8-719-061-82	DIODE TLSU1002(TPX1,SONY)			
D7304	8-719-064-61	DIODE 01BZA8.2(TE85L)			
D7305	8-719-420-14	DIODE MA8082-TX			
		< FERRITE BEAD >			
FB730	1-500-444-11	FERRITE	0UH		
FB731	1-500-444-11	FERRITE	0UH		

Note :
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Replace only with part number specified.

Note :
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Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
		< IC >			
IC7301	8-759-248-31	IC BA7780KV-E2			
IC7302	8-759-633-55	IC M5222FP-E1			
IC7303	8-759-111-56	IC uPC4572G2-E2			
		< TRANSISTOR >			
Q7304	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO			
		< RESISTOR >			
R7302	1-500-444-11	FERRITE 0UH			
R7303	1-216-805-11	METAL CHIP 47	5%	1/16W	
R7304	1-216-821-11	METAL CHIP 1K	5%	1/16W	
R7305	1-216-837-11	METAL CHIP 22K	5%	1/16W	
R7306	1-216-831-11	METAL CHIP 6.8K	5%	1/16W	
R7309	1-216-835-11	METAL CHIP 15K	5%	1/16W	
R7310	1-216-835-11	METAL CHIP 15K	5%	1/16W	
R7311	1-216-839-11	METAL CHIP 33K	5%	1/16W	
R7312	1-216-836-11	METAL CHIP 18K	5%	1/16W	
R7313	1-216-825-11	METAL CHIP 2.2K	5%	1/16W	
R7314	1-216-825-11	METAL CHIP 2.2K	5%	1/16W	
R7315	1-216-831-11	METAL CHIP 6.8K	5%	1/16W	
R7316	1-216-831-11	METAL CHIP 6.8K	5%	1/16W	
R7317	1-216-821-11	METAL CHIP 1K	5%	1/16W	
R7318	1-216-821-11	METAL CHIP 1K	5%	1/16W	
R7319	1-216-835-11	METAL CHIP 15K	5%	1/16W	
R7320	1-216-829-11	METAL CHIP 4.7K	5%	1/16W	
R7321	1-216-833-11	METAL CHIP 10K	5%	1/16W	
R7322	1-216-835-11	METAL CHIP 15K	5%	1/16W	
R7324	1-216-835-11	METAL CHIP 15K	5%	1/16W	
R7326	1-216-829-11	METAL CHIP 4.7K	5%	1/16W	
R7327	1-216-833-11	METAL CHIP 10K	5%	1/16W	
R7328	1-216-839-11	METAL CHIP 33K	5%	1/16W	
R7331	1-216-835-11	METAL CHIP 15K	5%	1/16W	
R7332	1-216-839-11	METAL CHIP 33K	5%	1/16W	
R7342	1-216-829-11	METAL CHIP 4.7K	5%	1/16W	
R7344	1-216-839-11	METAL CHIP 33K	5%	1/16W	
R7345	1-216-834-11	METAL CHIP 12K	5%	1/16W	
R7347	1-216-839-11	METAL CHIP 33K	5%	1/16W	
R7348	1-216-818-11	METAL CHIP 560	5%	1/16W	
R7350	1-216-837-11	METAL CHIP 22K	5%	1/16W	
R7351	1-216-849-11	METAL CHIP 220K	5%	1/16W	
R7352	1-216-833-11	METAL CHIP 10K	5%	1/16W	
R7353	1-216-833-11	METAL CHIP 10K	5%	1/16W	
R7354	1-216-845-11	METAL CHIP 100K	5%	1/16W	
R7355	1-216-837-11	METAL CHIP 22K	5%	1/16W	
R7356	1-216-837-11	METAL CHIP 22K	5%	1/16W	
R7357	1-216-821-11	METAL CHIP 1K	5%	1/16W	
R7358	1-216-821-11	METAL CHIP 1K	5%	1/16W	
R7359	1-216-841-11	METAL CHIP 47K	5%	1/16W	
R7360	1-216-841-11	METAL CHIP 47K	5%	1/16W	
R7361	1-216-815-11	METAL CHIP 330	5%	1/16W	
R7363	1-216-848-11	METAL CHIP 180K	5%	1/16W	

Ref. No.	Part No.	Description			Remarks
	A-7073-679-A	PD-101 BOARD, COMPLETE			
		**********			
		(Ref.No.:10,000 Series)			
		< CAPACITOR >			
C5501	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	
C5502	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	
C5503	1-164-943-11	CERAMIC CHIP 0.01uF	10%	16V	
C5504	1-164-943-11	CERAMIC CHIP 0.01uF	10%	16V	
C5505	1-164-943-11	CERAMIC CHIP 0.01uF	10%	16V	
C5506	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	
C5507	1-104-752-11	TANTAL. CHIP 33uF	20%	6.3V	
C5508	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	
C5509	1-135-221-11	TANTAL. CHIP 3.3uF	20%	4V	
C5510	1-104-852-11	TANTAL. CHIP 22uF	20%	10V	
C5512	1-104-851-11	TANTAL. CHIP 10uF	20%	10V	
C5513	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	
C5514	1-110-501-11	CERAMIC CHIP 0.33uF	10%	16V	
C5515	1-110-501-11	CERAMIC CHIP 0.33uF	10%	16V	
C5516	1-110-501-11	CERAMIC CHIP 0.33uF	10%	16V	
C5517	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	
C5520	1-164-933-11	CERAMIC CHIP 220PF	10%	16V	
C5521	1-164-933-11	CERAMIC CHIP 220PF	10%	16V	
C5522	1-164-933-11	CERAMIC CHIP 220PF	10%	16V	
C5602	1-113-985-11	TANTAL. CHIP 10uF	20%	20V	
C5603	1-107-725-11	CERAMIC CHIP 0.1uF	10%	16V	
C5604	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	
C5605	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	
C5607	1-164-004-11	CERAMIC CHIP 0.1uF	10%	25V	
C5608	1-162-964-11	CERAMIC CHIP 0.001uF	10%	50V	
C5610	1-164-872-11	CERAMIC CHIP 82PF	5%	16V	
C5611	1-164-004-11	CERAMIC CHIP 0.1uF	10%	25V	
C5612	1-164-872-11	CERAMIC CHIP 82PF	5%	16V	
C5613	1-164-739-11	CERAMIC CHIP 560PF	5%	50V	
C5616	1-109-982-11	CERAMIC CHIP 1uF	10%	10V	
C5618	1-104-916-11	TANTAL. CHIP 6.8uF	20%	20V	
C5619	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	
C5620	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	
C5621	1-113-985-11	TANTAL. CHIP 10uF	20%	20V	
C5622	1-107-682-11	CERAMIC CHIP 1uF	10%	16V	
C5624	1-164-004-11	CERAMIC CHIP 0.1uF	10%	25V	
C5701	1-113-991-11	TANTAL. CHIP 33uF	20%	16V	
C5702	1-109-982-11	CERAMIC CHIP 1uF	10%	10V	
C5703	1-164-661-11	CERAMIC CHIP 0.018uF	10%	50V	
C5704	1-164-004-11	CERAMIC CHIP 0.1uF	10%	25V	
⚠C5705	1-113-521-11	CERAMIC CHIP 12PF	10%	3KV	
C5706	1-164-943-11	CERAMIC CHIP 0.01uF	10%	16V	
		< CONNECTOR >			
CN5601	1-573-364-11	CONNECTOR, FFC/FPC 24P			
CN5701	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
CN5802	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P			
CN5803	1-779-065-11	PIN, CONNECTOR (PC BOARD) 13P			
CN5805	1-573-346-21	CONNECTOR, FFC/FPC 6P			

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PD-101

Ref. No.	Part No.	Description	Remarks
		< DIODE >	
D5602	8-713-102-80	DIODE 1T369-01-T8A	
D5604	8-719-422-31	DIODE MA8047-M-TX	
⚠D5704	8-719-404-49	DIODE MA111-TX	
D5801	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D5802	8-719-062-16	DIODE 01ZA8.2(TPL3)	
		< IC >	
IC5501	8-759-364-05	IC M62376GP-65AD	
IC5501	8-759-530-19	IC MB40D001PFV-G-BND-ER	
IC5502	8-759-539-27	IC IR3Y37A4	
IC5601	8-759-544-46	IC LZ9GH204	
IC5602	8-759-327-01	IC NJM062V(TE2)	
IC5701	8-759-075-70	IC TA75S393F-TE85R	
		< COIL >	
L5500	1-414-754-11	INDUCTOR 10uH	
L5501	1-414-756-11	INDUCTOR 47uH	
L5502	1-414-754-11	INDUCTOR 10uH	
L5503	1-414-754-11	INDUCTOR 10uH	
L5603	1-414-754-11	INDUCTOR 10uH	
L5604	1-414-754-11	INDUCTOR 10uH	
L5605	1-412-945-11	INDUCTOR 3.3uH	
L5701	1-416-666-11	INDUCTOR 150uH	
		< TRANSISTOR >	
Q5605	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q5606	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q5607	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q5608	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
⚠Q5701	8-729-039-43	TRANSISTOR FP216-TL	
Q5702	8-729-042-59	TRANSISTOR UN9112J-(K8).SO	
		< RESISTOR >	
R5500	1-218-990-11	SHORT 0	
R5501	1-218-972-11	RES,CHIP 39K 5%	1/16W
R5505	1-218-973-11	RES,CHIP 47K 5%	1/16W
R5508	1-208-719-11	RES,CHIP 33K 0.50%	1/16W
R5509	1-208-711-11	RES,CHIP 15K 0.50%	1/16W
R5510	1-218-969-11	RES,CHIP 22K 5%	1/16W
R5511	1-218-966-11	RES,CHIP 12K 5%	1/16W
R5512	1-218-969-11	RES,CHIP 22K 5%	1/16W
R5513	1-218-966-11	RES,CHIP 12K 5%	1/16W
R5514	1-218-965-11	RES,CHIP 10K 5%	1/16W
R5515	1-218-972-11	RES,CHIP 39K 5%	1/16W
R5516	1-218-969-11	RES,CHIP 22K 5%	1/16W
R5517	1-218-967-11	RES,CHIP 15K 5%	1/16W
R5518	1-218-971-11	RES,CHIP 33K 5%	1/16W
R5520	1-218-984-11	RES,CHIP 390K 5%	1/16W
R5521	1-208-709-11	RES,CHIP 12K 0.50%	1/16W
R5522	1-208-721-11	RES,CHIP 39K 0.50%	1/16W
R5528	1-218-977-11	RES,CHIP 100K 5%	1/16W
R5532	1-218-990-11	SHORT 0	
R5540	1-218-941-11	RES,CHIP 100 5%	1/16W
R5541	1-218-941-11	RES,CHIP 100 5%	1/16W
R5542	1-218-941-11	RES,CHIP 100 5%	1/16W
R5601	1-218-990-11	SHORT 0	
R5603	1-218-990-11	SHORT 0	
R5604	1-218-990-11	SHORT 0	

Ref. No.	Part No.	Description	Remarks
R5607	1-218-990-11	SHORT 0	
R5608	1-218-990-11	SHORT 0	
R5610	1-218-977-11	RES,CHIP 100K 5%	1/16W
R5614	1-218-987-11	RES,CHIP 680K 5%	1/16W
R5615	1-218-980-11	RES,CHIP 180K 5%	1/16W
R5620	1-218-965-11	RES,CHIP 10K 5%	1/16W
R5621	1-218-989-11	RES,CHIP 1M 5%	1/16W
R5622	1-218-989-11	RES,CHIP 1M 5%	1/16W
R5623	1-218-975-11	RES,CHIP 68K 5%	1/16W
R5624	1-218-969-11	RES,CHIP 22K 5%	1/16W
R5627	1-208-927-11	RES,CHIP 47K 0.50%	1/16W
R5628	1-218-990-11	SHORT 0	
R5629	1-218-975-11	RES,CHIP 68K 5%	1/16W
R5630	1-218-973-11	RES,CHIP 47K 5%	1/16W
R5634	1-218-961-11	RES,CHIP 4.7K 5%	1/16W
R5640	1-208-935-11	RES,CHIP 100K 0.50%	1/16W
R5641	1-208-719-11	RES,CHIP 33K 0.50%	1/16W
R5643	1-218-974-11	RES,CHIP 56K 5%	1/16W
R5644	1-218-971-11	RES,CHIP 33K 5%	1/16W
R5649	1-218-990-11	SHORT 0	
R5651	1-208-719-11	RES,CHIP 33K 0.50%	1/16W
R5652	1-208-715-11	RES,CHIP 22K 0.50%	1/16W
R5653	1-208-721-11	RES,CHIP 39K 0.50%	1/16W
R5654	1-208-719-11	RES,CHIP 33K 0.50%	1/16W
R5657	1-218-990-11	SHORT 0	
R5658	1-218-990-11	SHORT 0	
R5659	1-218-990-11	SHORT 0	
R5660	1-218-990-11	SHORT 0	
R5661	1-218-990-11	SHORT 0	
R5669	1-218-990-11	SHORT 0	
R5670	1-218-990-11	SHORT 0	
R5671	1-218-990-11	SHORT 0	
R5674	1-218-990-11	SHORT 0	
R5676	1-218-990-11	SHORT 0	
R5679	1-218-937-11	RES,CHIP 47 5%	1/16W
R5680	1-218-937-11	RES,CHIP 47 5%	1/16W
R5681	1-218-937-11	RES,CHIP 47 5%	1/16W
R5685	1-218-973-11	RES,CHIP 47K 5%	1/16W
R5686	1-218-973-11	RES,CHIP 47K 5%	1/16W
R5687	1-218-961-11	RES,CHIP 4.7K 5%	1/16W
R5688	1-216-864-11	METAL CHIP 0 5%	1/16W
R5695	1-218-990-11	SHORT 0	
R5699	1-218-969-11	RES,CHIP 22K 5%	1/16W
R5703	1-216-055-00	METAL CHIP 1.8K 5%	1/10W
R5704	1-216-055-00	METAL CHIP 1.8K 5%	1/10W
R5705	1-218-977-11	RES,CHIP 100K 5%	1/16W
R5706	1-218-963-11	RES,CHIP 6.8K 5%	1/16W
R5707	1-218-969-11	RES,CHIP 22K 5%	1/16W
R5708	1-218-942-11	RES,CHIP 120 5%	1/16W
R5709	1-218-949-11	RES,CHIP 470 5%	1/16W
R5710	1-218-990-11	SHORT 0	
R5801	1-218-954-11	RES,CHIP 1.2K 5%	1/16W
R5802	1-218-955-11	RES,CHIP 1.5K 5%	1/16W
R5803	1-218-959-11	RES,CHIP 3.3K 5%	1/16W
R5804	1-218-963-11	RES,CHIP 6.8K 5%	1/16W

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Ref. No.	Part No.	Description			Remarks
R5805	1-218-965-11	RES,CHIP	10K	5%	1/16W
R5807	1-218-990-11	SHORT	0		
		< TRANSFORMER >			
⚠T5701	1-431-754-21	TRANSFORMER, INVERTER			
	A-7073-735-A	RI-10(D) BOARD, COMPLETE			
		**********			
		(Ref.No.:10,000 Series)			
*	3-052-742-01	HOLDER, LED			
	3-977-676-01	HOLDER, LED			
		< CONNECTOR >			
CN7401	1-750-333-11	CONNECTOR, FFC/FPC (ZIF) 6P			
		< DIODE >			
D7401	8-719-404-49	DIODE MA111-TX			
		< IC >			
IC7401	8-749-013-13	IC RS-70-TU			
	A-7073-675-A	SE-75 BOARD, COMPLETE			
		**********			
		(Ref.No.:10,000 Series)			
		< CAPACITOR >			
C450	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C451	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
		< CONNECTOR >			
CN450	1-774-631-21	CONNECTOR, FFC/FPC 6P			
		< COIL >			
L450	1-414-754-11	INDUCTOR 10uH			
		< SENSOR >			
SE450	1-803-042-31	SENSOR, ANGULAR VELOCITY (YAW)			
SE451	1-803-042-41	SENSOR, ANGULAR VELOCITY (PITCH)			
	A-7093-974-A	VC-208 BOARD, COMPLETE			
		**********			
		(Ref.No.:10,000 Series)			
		< CAPACITOR >			
C201	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C202	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C203	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C204	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C205	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C206	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C207	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C208	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C209	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C211	1-109-982-11	CERAMIC CHIP	1uF	10%	10V

Ref. No.	Part No.	Description			Remarks
C212	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C213	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C214	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C215	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C217	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C218	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C219	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C220	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C221	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C222	1-113-988-11	TANTAL. CHIP	68uF	20%	4V
C227	1-115-156-11	CERAMIC CHIP	1uF		10V
C228	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V
C229	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C230	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C231	1-164-846-11	CERAMIC CHIP	6PF	0.5PF	16V
C232	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C233	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C234	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C235	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C236	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C237	1-115-156-11	CERAMIC CHIP	1uF		10V
C238	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V
C239	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V
C240	1-164-346-11	CERAMIC CHIP	1uF		16V
C247	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C248	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C249	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C250	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V
C252	1-115-156-11	CERAMIC CHIP	1uF		10V
C253	1-115-156-11	CERAMIC CHIP	1uF		10V
C254	1-115-156-11	CERAMIC CHIP	1uF		10V
C255	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C256	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C257	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C258	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C259	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C260	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C262	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C300	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C301	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C302	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C303	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C305	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C306	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C307	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C308	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C309	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C310	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C311	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C351	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C353	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C354	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C355	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C357	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C358	1-162-958-11	CERAMIC CHIP	270PF	5%	50V

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

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Ref. No.	Part No.	Description			Remarks
C359	1-162-958-11	CERAMIC CHIP	270PF	5%	50V
C360	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C361	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C368	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C370	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C371	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C372	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C373	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C374	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C375	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C376	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C377	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C379	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C400	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C401	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C402	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C403	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C404	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C405	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C406	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C407	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C408	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C409	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C410	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C411	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C414	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C415	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C500	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C501	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C502	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C503	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C504	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C505	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C506	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C507	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C508	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C509	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C510	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C511	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C512	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C514	1-115-156-11	CERAMIC CHIP	1uF		10V
C515	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C516	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C517	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C518	1-115-156-11	CERAMIC CHIP	1uF		10V
C519	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C520	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C521	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C522	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C523	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C524	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C525	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C526	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C527	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C528	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C530	1-115-156-11	CERAMIC CHIP	1uF		10V
C531	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C701	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C702	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C703	1-104-851-11	TANTAL. CHIP	10uF	20%	10V

Ref. No.	Part No.	Description			Remarks
C705	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C721	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C722	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C723	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C724	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C725	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C726	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C727	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C728	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C729	1-218-990-11	SHORT	0		
C730	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C731	1-164-878-11	CERAMIC CHIP	150PF	5%	16V
C732	1-164-878-11	CERAMIC CHIP	150PF	5%	16V
C733	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C734	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C735	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C736	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C738	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C740	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C742	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C743	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C751	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C752	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C753	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C754	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C755	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C756	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C757	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C758	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C759	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C760	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C761	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C762	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C763	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C764	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C765	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C766	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C767	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C768	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C770	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C771	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C772	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C1200	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1201	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C1202	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1203	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1204	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C1205	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C1206	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1207	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1208	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1209	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C1210	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1211	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1212	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1213	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1214	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1215	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1216	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1217	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V

Ref. No.	Part No.	Description			Remarks
C1218	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1219	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1220	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1221	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1222	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1223	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1224	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C1225	1-164-842-11	CERAMIC CHIP	2PF	0.25PF	16V
C1226	1-164-854-11	CERAMIC CHIP	15PF	5%	16V
C1227	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C1228	1-164-850-11	CERAMIC CHIP	18PF	5%	16V
C1229	1-164-850-11	CERAMIC CHIP	18PF	5%	16V
C1230	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1231	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1232	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1233	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1234	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C1235	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
		< CONNECTOR >			
CN200	1-785-432-21	CONNECTOR, BOARD TO BOARD 40P			
CN351	1-691-346-11	CONNECTOR, FFC/FPC 8P			
CN400	1-766-336-21	CONNECTOR, FFC/FPC 6P			
CN500	1-766-687-21	CONNECTOR, FFC/FPC 26P			
CN900	1-779-518-41	CONNECTOR, BOARD TO BOARD 100P			
		< DIODE >			
D204	8-713-103-84	DIODE 1T379-01-T8A			
D500	8-719-056-23	DIODE MA2S111-(K8).SO			
D501	8-719-056-23	DIODE MA2S111-(K8).SO			
D721	8-719-066-16	DIODE RB491D-T146			
D722	8-719-066-34	DIODE RB461F-T106			
D723	8-719-056-48	DIODE 1SS388(TPL3)			
D724	8-719-056-48	DIODE 1SS388(TPL3)			
D1200	8-719-071-32	DIODE HVC350BTRF			
D1201	8-719-071-32	DIODE HVC350BTRF			
		< FERRITE BEAD >			
FB200	1-414-445-11	FERRITE 0UH			
FB201	1-469-311-22	FERRITE 0UH			
FB202	1-414-445-11	FERRITE 0UH			
FB203	1-414-445-11	FERRITE 0UH			
FB204	1-414-445-11	FERRITE 0UH			
FB300	1-414-445-11	FERRITE 0UH			
FB301	1-414-445-11	FERRITE 0UH			
FB501	1-414-445-11	FERRITE 0UH			
FB752	1-543-955-22	FERRITE 0UH			
FB754	1-543-955-22	FERRITE 0UH			
		< IC >			
IC203	8-752-083-11	IC CXA2107R-T4			
IC204	8-752-393-81	IC CXD2462R-T4			
IC205	8-759-561-39	IC ADS933Y/2K			
IC206	8-759-561-39	IC ADS933Y/2K			
IC207	8-759-561-39	IC ADS933Y/2K			
IC208	8-759-387-31	IC TC75S55F(TE85R)			
IC300	8-752-397-00	IC CXD3116AR-T6			
IC301	8-759-445-93	IC AK6440AM-E2			
IC302	8-752-897-32	IC CXP912032-090R-T6			
IC305	8-759-426-25	IC MB88346LPFV-G-BND-ER			

Ref. No.	Part No.	Description	Remarks
IC351	8-759-359-49	IC NJM3414AV(TE2)	
IC352	8-759-359-49	IC NJM3414AV(TE2)	
IC354	8-759-058-45	IC NJM3403AV(TE2)	
IC355	8-759-050-51	IC SN74HCT04APW-E20	
IC356	8-759-058-45	IC NJM3403AV(TE2)	
IC357	8-759-075-66	IC TA75S01F(TE85R)	
IC400	8-759-489-19	IC uPC6756GR-8JG-E2	
IC500	8-759-492-31	IC MPC17A134VMEL	
IC501	8-759-444-87	IC NJM324V(TE2)	
IC502	8-759-444-87	IC NJM324V(TE2)	
IC701	8-759-540-05	IC HG71C112TE	
IC721	8-759-492-30	IC MB3817PFV-G-BND	
IC722	8-759-492-30	IC MB3817PFV-G-BND	
IC751	8-759-567-99	IC HD6437042AP10XSZ	
IC752	8-759-543-83	IC KM416V1204CT-L6T	
IC753	8-759-234-20	IC TC7S08F(TE85R)	
IC754	8-759-327-60	IC TC7W125FU-TE12R	
IC755	8-759-196-96	IC TC7SH08FU-TE85R	
IC756	8-752-395-94	IC CXD3133AR	
IC757	8-759-547-24	IC RL5V834/E2H	
IC758	8-759-499-07	IC MB81V4260S-70LPFTN-G-ER	
IC759	8-759-547-46	IC MSM9831-SGX4880MAZ060	
IC760	8-759-445-93	IC AK6440AM-E2	
IC1200	8-759-553-76	IC SC371053FTAEB	
		< COIL >	
L200	1-414-754-11	INDUCTOR 10uH	
L201	1-414-754-11	INDUCTOR 10uH	
L300	1-414-754-11	INDUCTOR 10uH	
L301	1-414-754-11	INDUCTOR 10uH	
L351	1-414-754-11	INDUCTOR 10uH	
L352	1-412-963-11	INDUCTOR 100uH	
L400	1-414-754-11	INDUCTOR 10uH	
L500	1-414-754-11	INDUCTOR 10uH	
L501	1-414-754-11	INDUCTOR 10uH	
L503	1-414-754-11	INDUCTOR 10uH	
L721	1-416-344-11	INDUCTOR 10uH	
L722	1-416-344-11	INDUCTOR 10uH	
L723	1-416-345-11	INDUCTOR 22uH	
L724	1-416-345-11	INDUCTOR 22uH	
L725	1-414-396-21	INDUCTOR 4.7uH	
L726	1-216-296-91	SHORT 0	
L727	1-414-396-21	INDUCTOR 4.7uH	
L751	1-414-754-11	INDUCTOR 10uH	
L752	1-414-754-11	INDUCTOR 10uH	
L754	1-414-754-11	INDUCTOR 10uH	
L1200	1-414-754-11	INDUCTOR 10uH	
L1201	1-414-754-11	INDUCTOR 10uH	
L1202	1-412-942-21	INDUCTOR 1.8uH	
L1203	1-412-957-11	INDUCTOR 33uH	
L1204	1-412-957-11	INDUCTOR 33uH	
L1205	1-414-754-11	INDUCTOR 10uH	
		< TRANSISTOR >	
Q200	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q201	8-729-042-58	TRANSISTOR UN9111J-(K8).SO	
Q301	8-729-037-72	TRANSISTOR UN9211J-(K8).SO	
Q351	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q352	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	

Ref. No.	Part No.	Description	Remarks
Q353	8-729-037-76	TRANSISTOR UN9215J-(K8).SO	
Q354	8-729-013-31	TRANSISTOR 2SA1588-OY-TE85L	
Q500	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q501	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q502	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q503	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q504	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q505	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q701	8-729-046-00	TRANSISTOR CPH6301-TL	
Q702	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q721	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q722	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q727	8-729-024-48	TRANSISTOR 2SK1830-TE85L	
Q751	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q752	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q753	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q754	8-729-037-61	TRANSISTOR UN9113J-(K8).SO	
Q1200	8-729-807-86	TRANSISTOR 2SB1295-UL5-TB	
Q1201	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q1202	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q1203	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q1204	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q1205	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q1206	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q1207	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q1208	8-729-037-76	TRANSISTOR UN9215J-(K8).SO	
Q1209	8-729-807-86	TRANSISTOR 2SB1295-UL5-TB	

< RESISTOR >

Ref. No.	Part No.	Description			
R200	1-218-977-11	RES,CHIP	100K	5%	1/16W
R201	1-218-935-11	RES,CHIP	33	5%	1/16W
R202	1-218-985-11	RES,CHIP	470K	5%	1/16W
R203	1-218-934-11	RES,CHIP	27	5%	1/16W
R204	1-218-935-11	RES,CHIP	33	5%	1/16W
R205	1-218-935-11	RES,CHIP	33	5%	1/16W
R207	1-218-990-11	SHORT	0		
R208	1-218-990-11	SHORT	0		
R209	1-218-990-11	SHORT	0		
R210	1-218-990-11	SHORT	0		
R211	1-218-990-11	SHORT	0		
R212	1-218-990-11	SHORT	0		
R213	1-218-989-11	RES,CHIP	1M	5%	1/16W
R214	1-218-989-11	RES,CHIP	1M	5%	1/16W
R215	1-218-989-11	RES,CHIP	1M	5%	1/16W
R216	1-218-957-11	RES,CHIP	2.2K	5%	1/16W
R217	1-208-712-11	RES,CHIP	16K	0.50%	1/16W
R218	1-208-683-11	RES,CHIP	1K	0.50%	1/16W
R220	1-208-947-11	RES,CHIP	330K	0.50%	1/16W
R221	1-218-985-11	RES,CHIP	470K	0.50%	1/16W
R222	1-208-713-11	RES,CHIP	18K	0.50%	1/16W
R223	1-208-713-11	RES,CHIP	18K	0.50%	1/16W
R224	1-208-713-11	RES,CHIP	18K	0.50%	1/16W
R225	1-208-713-11	RES,CHIP	18K	0.50%	1/16W
R226	1-208-713-11	RES,CHIP	18K	0.50%	1/16W
R227	1-208-713-11	RES,CHIP	18K	0.50%	1/16W
R236	1-218-990-11	SHORT	0		
R237	1-218-965-11	RES,CHIP	10K	5%	1/16W
R300	1-218-977-11	RES,CHIP	100K	5%	1/16W
R301	1-218-973-11	RES,CHIP	47K	5%	1/16W
R302	1-218-953-11	RES,CHIP	1K	5%	1/16W
R303	1-218-973-11	RES,CHIP	47K	5%	1/16W
R304	1-218-977-11	RES,CHIP	100K	5%	1/16W
R305	1-218-953-11	RES,CHIP	1K	5%	1/16W
R306	1-218-977-11	RES,CHIP	100K	5%	1/16W
R307	1-218-977-11	RES,CHIP	100K	5%	1/16W
R308	1-218-977-11	RES,CHIP	100K	5%	1/16W
R309	1-218-953-11	RES,CHIP	1K	5%	1/16W
R311	1-218-989-11	RES,CHIP	1M	5%	1/16W
R314	1-218-957-11	RES,CHIP	2.2K	5%	1/16W
R316	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R317	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R318	1-218-977-11	RES,CHIP	100K	5%	1/16W
R320	1-218-957-11	RES,CHIP	2.2K	5%	1/16W
R325	1-218-973-11	RES,CHIP	47K	5%	1/16W
R326	1-218-973-11	RES,CHIP	47K	5%	1/16W
R327	1-218-953-11	RES,CHIP	1K	5%	1/16W
R328	1-218-953-11	RES,CHIP	1K	5%	1/16W
R329	1-218-977-11	RES,CHIP	100K	5%	1/16W
R330	1-218-977-11	RES,CHIP	100K	5%	1/16W
R331	1-218-977-11	RES,CHIP	100K	5%	1/16W
R332	1-218-989-11	RES,CHIP	1M	5%	1/16W
R333	1-218-989-11	RES,CHIP	1M	5%	1/16W
R334	1-218-953-11	RES,CHIP	1K	5%	1/16W
R336	1-218-990-11	SHORT	0		
R353	1-208-675-11	RES,CHIP	470	0.50%	1/16W
R354	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R355	1-208-713-11	RES,CHIP	18K	0.50%	1/16W
R357	1-208-719-11	RES,CHIP	33K	0.50%	1/16W
R358	1-218-985-11	RES,CHIP	470K	0.50%	1/16W
R359	1-208-719-11	RES,CHIP	33K	0.50%	1/16W
R360	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R361	1-208-683-11	RES,CHIP	1K	0.50%	1/16W
R362	1-208-719-11	RES,CHIP	33K	0.50%	1/16W
R363	1-208-715-11	RES,CHIP	22K	0.50%	1/16W
R364	1-208-719-11	RES,CHIP	33K	0.50%	1/16W
R365	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R366	1-208-683-11	RES,CHIP	1K	0.50%	1/16W
R367	1-218-977-11	RES,CHIP	100K	5%	1/16W
R368	1-218-979-11	RES,CHIP	150K	5%	1/16W
R369	1-218-977-11	RES,CHIP	100K	5%	1/16W
R370	1-218-979-11	RES,CHIP	150K	5%	1/16W
R371	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R372	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R373	1-218-977-11	RES,CHIP	100K	5%	1/16W
R374	1-208-939-11	RES,CHIP	150K	0.50%	1/16W
R375	1-208-939-11	RES,CHIP	150K	0.50%	1/16W
R376	1-218-977-11	RES,CHIP	100K	5%	1/16W
R377	1-208-715-11	RES,CHIP	22K	0.50%	1/16W
R378	1-208-715-11	RES,CHIP	22K	0.50%	1/16W
R379	1-208-707-11	RES,CHIP	10K	0.50%	1/16W
R380	1-208-707-11	RES,CHIP	10K	0.50%	1/16W
R381	1-218-975-11	RES,CHIP	68K	5%	1/16W
R382	1-218-975-11	RES,CHIP	68K	5%	1/16W
R383	1-218-975-11	RES,CHIP	68K	5%	1/16W
R384	1-218-975-11	RES,CHIP	68K	5%	1/16W
R385	1-218-975-11	RES,CHIP	68K	5%	1/16W
R386	1-218-975-11	RES,CHIP	68K	5%	1/16W
R387	1-218-953-11	RES,CHIP	1K	5%	1/16W
R388	1-218-973-11	RES,CHIP	47K	5%	1/16W

Ref. No.	Part No.	Description				Remarks
R389	1-218-953-11	RES,CHIP		1K	5%	1/16W
R390	1-218-965-11	RES,CHIP		10K	5%	1/16W
R391	1-218-985-11	RES,CHIP		470K	0.50%	1/16W
R392	1-208-715-11	RES,CHIP		22K	0.50%	1/16W
R393	1-208-931-11	RES,CHIP		68K	0.50%	1/16W
R394	1-208-935-11	RES,CHIP		100K	0.50%	1/16W
R395	1-208-931-11	RES,CHIP		68K	0.50%	1/16W
R396	1-208-935-11	RES,CHIP		100K	0.50%	1/16W
R400	1-218-969-11	RES,CHIP		22K	5%	1/16W
R401	1-218-969-11	RES,CHIP		22K	5%	1/16W
R402	1-218-969-11	RES,CHIP		22K	5%	1/16W
R403	1-218-969-11	RES,CHIP		22K	5%	1/16W
R404	1-218-965-11	RES,CHIP		10K	5%	1/16W
R405	1-218-965-11	RES,CHIP		10K	5%	1/16W
R406	1-218-989-11	RES,CHIP		1M	5%	1/16W
R409	1-218-989-11	RES,CHIP		1M	5%	1/16W
R500	1-218-975-11	RES,CHIP		68K	5%	1/16W
R501	1-218-961-11	RES,CHIP		4.7K	5%	1/16W
R502	1-216-295-91	SHORT	0			
R503	1-218-975-11	RES,CHIP		68K	5%	1/16W
R505	1-218-953-11	RES,CHIP		1K	5%	1/16W
R506	1-218-989-11	RES,CHIP		1M	5%	1/16W
R507	1-218-957-11	RES,CHIP		2.2K	5%	1/16W
R508	1-218-965-11	RES,CHIP		10K	5%	1/16W
R509	1-218-981-11	RES,CHIP		220K	5%	1/16W
R510	1-218-985-11	RES,CHIP		470K	5%	1/16W
R511	1-218-985-11	RES,CHIP		470K	5%	1/16W
R512	1-218-957-11	RES,CHIP		2.2K	5%	1/16W
R513	1-218-967-11	RES,CHIP		15K	5%	1/16W
R514	1-218-969-11	RES,CHIP		22K	5%	1/16W
R515	1-218-985-11	RES,CHIP		470K	5%	1/16W
R516	1-218-953-11	RES,CHIP		1K	5%	1/16W
R517	1-218-953-11	RES,CHIP		1K	5%	1/16W
R518	1-218-947-11	RES,CHIP		330	5%	1/16W
R519	1-218-969-11	RES,CHIP		22K	5%	1/16W
R520	1-218-953-11	RES,CHIP		1K	5%	1/16W
R521	1-218-965-11	RES,CHIP		10K	5%	1/16W
R522	1-218-973-11	RES,CHIP		47K	5%	1/16W
R523	1-216-295-91	SHORT	0			
R525	1-218-953-11	RES,CHIP		1K	5%	1/16W
R526	1-218-989-11	RES,CHIP		1M	5%	1/16W
R527	1-218-957-11	RES,CHIP		2.2K	5%	1/16W
R528	1-218-965-11	RES,CHIP		10K	5%	1/16W
R529	1-218-981-11	RES,CHIP		220K	5%	1/16W
R530	1-218-985-11	RES,CHIP		470K	5%	1/16W
R531	1-218-985-11	RES,CHIP		470K	5%	1/16W
R532	1-218-957-11	RES,CHIP		2.2K	5%	1/16W
R533	1-218-967-11	RES,CHIP		15K	5%	1/16W
R534	1-218-969-11	RES,CHIP		22K	5%	1/16W
R535	1-218-985-11	RES,CHIP		470K	5%	1/16W
R536	1-218-953-11	RES,CHIP		1K	5%	1/16W
R537	1-218-953-11	RES,CHIP		1K	5%	1/16W
R538	1-218-947-11	RES,CHIP		330	5%	1/16W
R539	1-218-969-11	RES,CHIP		22K	5%	1/16W
R540	1-218-953-11	RES,CHIP		1K	5%	1/16W
R541	1-218-965-11	RES,CHIP		10K	5%	1/16W
R542	1-218-973-11	RES,CHIP		47K	5%	1/16W
R543	1-218-973-11	RES,CHIP		47K	5%	1/16W
R544	1-218-990-11	SHORT	0			
R545	1-218-961-11	RES,CHIP		4.7K	5%	1/16W
R701	1-218-989-11	RES,CHIP		1M	5%	1/16W
R702	1-218-977-11	RES,CHIP		100K	5%	1/16W
R703	1-218-977-11	RES,CHIP		100K	5%	1/16W
R704	1-216-295-91	SHORT	0			
R705	1-218-961-11	RES,CHIP		4.7K	5%	1/16W
R721	1-218-937-11	RES,CHIP		47	5%	1/16W
R722	1-218-943-11	RES,CHIP		150	5%	1/16W
R723	1-218-965-11	RES,CHIP		10K	5%	1/16W
R724	1-218-965-11	RES,CHIP		10K	5%	1/16W
R725	1-218-967-11	RES,CHIP		15K	5%	1/16W
R727	1-218-967-11	RES,CHIP		15K	5%	1/16W
R728	1-208-715-11	RES,CHIP		22K	0.50%	1/16W
R729	1-208-719-11	RES,CHIP		33K	0.50%	1/16W
R730	1-208-927-11	RES,CHIP		47K	0.50%	1/16W
R731	1-208-697-11	RES,CHIP		3.9K	0.50%	1/16W
R732	1-208-927-11	RES,CHIP		47K	0.50%	1/16W
R733	1-208-927-11	RES,CHIP		47K	0.50%	1/16W
R740	1-218-990-11	SHORT	0			
R741	1-208-927-11	RES,CHIP		47K	0.50%	1/16W
R742	1-218-977-11	RES,CHIP		100K	5%	1/16W
R743	1-218-989-11	RES,CHIP		1M	5%	1/16W
R744	1-218-977-11	RES,CHIP		100K	5%	1/16W
R745	1-218-990-11	SHORT	0			
R751	1-218-977-11	RES,CHIP		100K	5%	1/16W
R754	1-218-977-11	RES,CHIP		100K	5%	1/16W
R755	1-218-977-11	RES,CHIP		100K	5%	1/16W
R756	1-218-958-11	RES,CHIP		2.7K	5%	1/16W
R757	1-218-946-11	RES,CHIP		270	5%	1/16W
R758	1-218-944-11	RES,CHIP		180	5%	1/16W
R759	1-218-932-11	RES,CHIP		18	5%	1/16W
R760	1-218-990-11	SHORT	0			
R761	1-218-990-11	SHORT	0			
R763	1-218-973-11	RES,CHIP		47K	5%	1/16W
R764	1-218-973-11	RES,CHIP		47K	5%	1/16W
R765	1-218-977-11	RES,CHIP		100K	5%	1/16W
R766	1-218-977-11	RES,CHIP		100K	5%	1/16W
R767	1-218-977-11	RES,CHIP		100K	5%	1/16W
R768	1-218-977-11	RES,CHIP		100K	5%	1/16W
R769	1-218-977-11	RES,CHIP		100K	5%	1/16W
R770	1-218-977-11	RES,CHIP		100K	5%	1/16W
R771	1-218-977-11	RES,CHIP		100K	5%	1/16W
R772	1-218-977-11	RES,CHIP		100K	5%	1/16W
R773	1-218-977-11	RES,CHIP		100K	5%	1/16W
R774	1-218-977-11	RES,CHIP		100K	5%	1/16W
R775	1-218-977-11	RES,CHIP		100K	5%	1/16W
R776	1-218-977-11	RES,CHIP		100K	5%	1/16W
R777	1-218-977-11	RES,CHIP		100K	5%	1/16W
R778	1-218-977-11	RES,CHIP		100K	5%	1/16W
R779	1-218-977-11	RES,CHIP		100K	5%	1/16W
R780	1-218-977-11	RES,CHIP		100K	5%	1/16W
R781	1-218-977-11	RES,CHIP		100K	5%	1/16W
R782	1-218-977-11	RES,CHIP		100K	5%	1/16W
R783	1-218-977-11	RES,CHIP		100K	5%	1/16W
R784	1-218-977-11	RES,CHIP		100K	5%	1/16W
R785	1-218-977-11	RES,CHIP		100K	5%	1/16W
R786	1-218-977-11	RES,CHIP		100K	5%	1/16W
R787	1-218-977-11	RES,CHIP		100K	5%	1/16W
R788	1-218-990-11	SHORT	0			
R789	1-218-965-11	RES,CHIP		10K	5%	1/16W
R790	1-218-965-11	RES,CHIP		10K	5%	1/16W

Ref. No.	Part No.	Description				Remarks
R791	1-218-977-11	RES,CHIP	100K	5%		1/16W
R792	1-218-965-11	RES,CHIP	10K	5%		1/16W
R793	1-218-977-11	RES,CHIP	100K	5%		1/16W
R794	1-218-953-11	RES,CHIP	1K	5%		1/16W
R795	1-107-820-11	CERAMIC CHIP	0.1MF			16V
R800	1-218-990-11	SHORT	0			
R801	1-218-990-11	SHORT	0			
R802	1-218-990-11	SHORT	0			
R804	1-218-977-11	RES,CHIP	100K	5%		1/16W
R806	1-218-977-11	RES,CHIP	100K	5%		1/16W
R807	1-218-990-11	SHORT	0			
R808	1-218-990-11	SHORT	0			
R809	1-216-809-11	METAL CHIP	100	5%		1/16W
R810	1-218-990-11	SHORT	0			
R920	1-218-990-11	SHORT	0			
R1202	1-218-977-11	RES,CHIP	100K	5%		1/16W
R1203	1-218-977-11	RES,CHIP	100K	5%		1/16W
R1204	1-218-973-11	RES,CHIP	47K	5%		1/16W
R1205	1-218-950-11	RES,CHIP	560	5%		1/16W
R1206	1-218-977-11	RES,CHIP	100K	5%		1/16W
R1207	1-218-953-11	RES,CHIP	1K	5%		1/16W
R1208	1-218-959-11	RES,CHIP	3.3K	5%		1/16W
R1209	1-218-979-11	RES,CHIP	150K	5%		1/16W
R1210	1-218-953-11	RES,CHIP	1K	5%		1/16W
R1211	1-218-965-11	RES,CHIP	10K	5%		1/16W
R1212	1-218-953-11	RES,CHIP	1K	5%		1/16W
R1213	1-218-957-11	RES,CHIP	2.2K	5%		1/16W
R1214	1-218-953-11	RES,CHIP	1K	5%		1/16W
R1215	1-218-953-11	RES,CHIP	1K	5%		1/16W
R1216	1-218-959-11	RES,CHIP	3.3K	5%		1/16W
R1217	1-218-952-11	RES,CHIP	820	5%		1/16W
R1218	1-218-965-11	RES,CHIP	10K	5%		1/16W
R1219	1-218-965-11	RES,CHIP	10K	5%		1/16W
R1266	1-216-864-11	METAL CHIP	0	5%		1/16W
R1267	1-218-965-11	RES,CHIP	10K	5%		1/16W
R1268	1-218-965-11	RES,CHIP	10K	5%		1/16W
R1269	1-218-941-11	RES,CHIP	100	5%		1/16W
R1270	1-218-989-11	RES,CHIP	1M	5%		1/16W
R1271	1-218-977-11	RES,CHIP	100K	5%		1/16W
		< VIBRATOR >				
X200	1-767-586-21	VIBRATOR, CRYSTAL (27MHz)				
X300	1-767-450-11	VIBRATOR, CERAMIC (20MHZ)				
X751	1-781-069-21	VIBRATOR,LITHIUM NIOBATE (6.875MHz)				
X1200	1-781-068-21	VIBRATOR, CRYSTAL (40.5MHz)				
	A-7073-682-A	VF-121 BOARD, COMPLETE				
		**********				
		(Ref.No.:10,000 Series)				
		< CAPACITOR >				
C5001	1-135-259-11	TANTAL. CHIP	10uF	20%		6.3V
C5002	1-164-943-11	CERAMIC CHIP	0.01uF	10%		16V
C5003	1-135-179-21	TANTAL. CHIP	2.2uF	20%		16V
C5004	1-164-943-11	CERAMIC CHIP	0.01uF	10%		16V
C5005	1-164-943-11	CERAMIC CHIP	0.01uF	10%		16V

Ref. No.	Part No.	Description				Remarks
C5006	1-164-943-11	CERAMIC CHIP	0.01uF	10%		16V
C5007	1-135-181-21	TANTALUM CHIP	4.7uF	20%		6.3V
C5008	1-135-181-21	TANTALUM CHIP	4.7uF	20%		6.3V
C5009	1-135-181-21	TANTALUM CHIP	4.7uF	20%		6.3V
C5010	1-135-179-21	TANTAL. CHIP	2.2uF	20%		16V
C5011	1-164-943-11	CERAMIC CHIP	0.01uF	10%		16V
C5012	1-164-505-11	CERAMIC CHIP	2.2uF			16V
C5013	1-115-566-11	CERAMIC CHIP	4.7uF	10%		10V
C5015	1-164-943-11	CERAMIC CHIP	0.01uF	10%		16V
C5016	1-135-181-21	TANTALUM CHIP	4.7uF	20%		6.3V
C5017	1-164-933-11	CERAMIC CHIP	220PF	10%		16V
C5018	1-164-933-11	CERAMIC CHIP	220PF	10%		16V
C5019	1-164-933-11	CERAMIC CHIP	220PF	10%		16V
C5020	1-125-777-11	CERAMIC CHIP	0.1uF	10%		10V
C5101	1-115-467-11	CERAMIC CHIP	0.22uF	10%		10V
C5102	1-164-943-11	CERAMIC CHIP	0.01uF	10%		16V
C5103	1-104-851-11	TANTAL. CHIP	10uF	20%		10V
C5104	1-107-826-11	CERAMIC CHIP	0.1uF	10%		16V
C5105	1-104-916-11	TANTAL. CHIP	6.8uF	20%		20V
C5106	1-164-939-11	CERAMIC CHIP	0.0022uF	10%		16V
C5108	1-135-181-21	TANTALUM CHIP	4.7uF	20%		6.3V
C5109	1-107-819-11	CERAMIC CHIP	0.022uF	10%		16V
C5110	1-107-819-11	CERAMIC CHIP	0.022uF	10%		16V
C5111	1-164-943-11	CERAMIC CHIP	0.01uF	10%		16V
C5112	1-109-982-11	CERAMIC CHIP	1uF	10%		10V
C5113	1-164-878-11	CERAMIC CHIP	150PF	5%		16V
C5114	1-164-943-11	CERAMIC CHIP	0.01uF	10%		16V
C5115	1-115-566-11	CERAMIC CHIP	4.7uF	10%		10V
C5116	1-164-943-11	CERAMIC CHIP	0.01uF	10%		16V
C5117	1-164-940-11	CERAMIC CHIP	0.0033uF	10%		16V
C5118	1-164-858-11	CERAMIC CHIP	22PF	5%		16V
C5119	1-162-964-11	CERAMIC CHIP	0.001uF	10%		50V
C5120	1-135-259-11	TANTAL. CHIP	10uF	20%		6.3V
C5121	1-164-943-11	CERAMIC CHIP	0.01uF	10%		16V
C5122	1-164-940-11	CERAMIC CHIP	0.0033uF	10%		16V
C5123	1-107-826-11	CERAMIC CHIP	0.1uF	10%		16V
		< CONNECTOR >				
CN5001	1-784-420-11	CONNECTOR, FFC/FPC (ZIF) 21P				
CN5101	1-778-596-21	CONNECTOR, BOARD TO BOARD 30P				
		< DIODE >				
D5101	8-719-043-70	DIODE MA6S121-(TX)				
D5102	8-713-102-80	DIODE 1T369-01-T8A				
		< IC >				
IC5001	8-759-546-65	IC CXA8115AR-T4				
IC5002	8-759-364-05	IC M62376GP-65AD				
IC5002	8-759-530-19	IC MB40D001PFV-G-BND-ER				
IC5101	8-759-097-75	IC MB3789PFV-G-BND-ER				
IC5102	8-752-392-33	IC CXD2458AR-T4				
		< COIL >				
L5001	1-414-754-11	INDUCTOR 10uH				
L5002	1-414-754-11	INDUCTOR 10uH				
L5101	1-412-033-11	INDUCTOR CHIP 220uH				
L5102	1-414-756-11	INDUCTOR 47uH				
L5103	1-412-947-11	INDUCTOR 4.7uH				

Ref. No.	Part No.	Description				Remarks
		< TRANSISTOR >				
Q5101	8-729-013-72	TRANSISTOR	RN2105-TE85L			
Q5102	8-729-037-61	TRANSISTOR	UN9113J-(K8).SO			
Q5103	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO			
		< RESISTOR >				
R5001	1-218-990-11	SHORT	0			
R5003	1-218-990-11	SHORT	0			
R5005	1-218-971-11	RES,CHIP	33K	5%	1/16W	
R5008	1-218-969-11	RES,CHIP	22K	5%	1/16W	
R5016	1-218-990-11	SHORT	0			
R5018	1-218-990-11	SHORT	0			
R5020	1-218-975-11	RES,CHIP	68K	5%	1/16W	
R5021	1-218-971-11	RES,CHIP	33K	5%	1/16W	
R5022	1-218-985-11	RES,CHIP	470K	5%	1/16W	
R5023	1-218-972-11	RES,CHIP	39K	5%	1/16W	
R5024	1-218-972-11	RES,CHIP	39K	5%	1/16W	
R5025	1-218-975-11	RES,CHIP	68K	5%	1/16W	
R5026	1-218-971-11	RES,CHIP	33K	5%	1/16W	
R5027	1-218-973-11	RES,CHIP	47K	5%	1/16W	
R5028	1-218-972-11	RES,CHIP	39K	5%	1/16W	
R5029	1-218-990-11	SHORT	0			
R5030	1-218-941-11	RES,CHIP	100	5%	1/16W	
R5031	1-218-941-11	RES,CHIP	100	5%	1/16W	
R5035	1-218-941-11	RES,CHIP	100	5%	1/16W	
R5038	1-218-990-11	SHORT	0			
R5039	1-218-990-11	SHORT	0			
R5040	1-216-861-11	METAL CHIP	2.2M	5%	1/16W	
R5041	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R5043	1-218-990-11	SHORT	0			
R5045	1-218-941-11	RES,CHIP	100	5%	1/16W	
R5046	1-218-941-11	RES,CHIP	100	5%	1/16W	
R5047	1-218-941-11	RES,CHIP	100	5%	1/16W	
R5101	1-216-864-11	METAL CHIP	0	5%	1/16W	
R5102	1-218-901-11	RES,CHIP	180K	0.50%	1/16W	
R5103	1-218-975-11	RES,CHIP	68K	5%	1/16W	
R5104	1-218-974-11	RES,CHIP	56K	5%	1/16W	
R5105	1-218-887-11	RES,CHIP	47K	0.50%	1/16W	
R5106	1-218-975-11	RES,CHIP	68K	5%	1/16W	
R5107	1-218-970-11	RES,CHIP	27K	5%	1/16W	
R5108	1-218-982-11	RES,CHIP	270K	5%	1/16W	
R5109	1-218-973-11	RES,CHIP	47K	5%	1/16W	
R5110	1-218-974-11	RES,CHIP	56K	5%	1/16W	
R5111	1-218-965-11	RES,CHIP	10K	5%	1/16W	
R5113	1-218-979-11	RES,CHIP	150K	5%	1/16W	
R5114	1-218-954-11	RES,CHIP	1.2K	5%	1/16W	
R5115	1-218-980-11	RES,CHIP	180K	5%	1/16W	
R5116	1-218-969-11	RES,CHIP	22K	5%	1/16W	
R5117	1-218-985-11	RES,CHIP	470K	5%	1/16W	
R5118	1-218-983-11	RES,CHIP	330K	5%	1/16W	
R5119	1-218-971-11	RES,CHIP	33K	5%	1/16W	
R5120	1-218-989-11	RES,CHIP	1M	5%	1/16W	
R5121	1-218-974-11	RES,CHIP	56K	5%	1/16W	
R5123	1-218-965-11	RES,CHIP	10K	5%	1/16W	
R5125	1-218-971-11	RES,CHIP	33K	5%	1/16W	
R5127	1-218-990-11	SHORT	0			
R5128	1-218-953-11	RES,CHIP	1K	5%	1/16W	
R5134	1-218-990-11	SHORT	0			
R5136	1-218-990-11	SHORT	0			

Ref. No.	Part No.	Description				Remarks
	A-7094-065-A	VI-151(D) BOARD, COMPLETE (PD100)				
	A-7094-121-A	VI-151(D) BOARD, COMPLETE (PD100P)				
		**********				
		(Ref.No.:10,000 Series)				
		< CAPACITOR >				
C1400	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1401	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V	
C1402	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1403	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1404	1-104-851-11	TANTAL. CHIP	10uF	20%	10V	
C1405	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1409	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C1418	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C1422	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V	
C1423	1-128-829-91	TANTAL. CHIP	220uF	20%	6.3V	
C1433	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1434	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C1436	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V	
C1438	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1439	1-128-829-91	TANTAL. CHIP	220uF	20%	6.3V	
C1449	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1450	1-104-851-11	TANTAL. CHIP	10uF	20%	10V	
C1451	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1452	1-164-858-11	CERAMIC CHIP	22PF	5%	16V	
C1503	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1505	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1506	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1507	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1512	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	
C1513	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C1600	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C1601	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	
C1602	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	
C1603	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	
C1604	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1606	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1607	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1609	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1610	1-164-933-11	CERAMIC CHIP	220PF	10%	16V	
C1611	1-164-858-11	CERAMIC CHIP	22PF	5%	16V	
C1612	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1613	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1614	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1615	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1617	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V	
C1618	1-164-882-11	CERAMIC CHIP	220PF	5%	16V	
C1619	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C1620	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1621	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1622	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1623	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1804	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1833	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1834	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1837	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1838	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1840	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1844	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1845	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1846	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	

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Ref. No.	Part No.	Description			Remarks
C1847	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1850	1-164-866-11	CERAMIC CHIP	47PF	5%	16V
C1852	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C1854	1-164-866-11	CERAMIC CHIP	47PF	5%	16V
C1856	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1860	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1869	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1875	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1878	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1881	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C1884	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1885	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1886	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1887	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1888	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1889	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1890	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C1891	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1901	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1903	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1904	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1909	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1910	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1914	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1915	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1933	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C2001	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2002	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2003	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2004	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2007	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2008	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2009	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C2010	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C2012	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2014	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2015	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2016	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2017	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C2018	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2022	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C2024	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C2025	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2027	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2028	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2029	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C2030	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C2031	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2032	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2033	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C2034	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2035	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2036	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2037	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2038	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2039	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2040	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2041	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2042	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2044	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V

Ref. No.	Part No.	Description			Remarks
C2045	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2046	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2047	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2048	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2049	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2051	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2053	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2054	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C2055	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C2056	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2206	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C2210	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C2211	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C2212	1-119-749-11	TANTAL. CHIP	33uF	20%	4V
C2213	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C2215	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2216	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2217	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2218	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2219	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2220	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2221	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2222	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2223	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2224	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2225	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C2226	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C2227	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C2232	1-164-858-11	CERAMIC CHIP	22PF	5%	16V
C2233	1-164-854-11	CERAMIC CHIP	15PF	5%	16V
C2234	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C2237	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C2238	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C2239	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C2400	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C2402	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V
C2403	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V
C2405	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2408	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2409	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2410	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C2500	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C2507	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C2546	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2550	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C2551	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2552	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2553	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C2554	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C2555	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2556	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C2557	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2558	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2559	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2561	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C2562	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2563	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2564	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2565	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C2566	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description			Remarks
C2567	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C2569	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2570	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C2572	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2573	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C2574	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C2575	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2576	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2577	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C2579	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2582	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2583	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C2585	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2586	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2587	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2588	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2589	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2590	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C2591	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C3200	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C3201	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3202	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C3203	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3204	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C3205	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C3206	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C3207	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C3208	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C3209	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C3210	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C3211	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C3212	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C3213	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C3215	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3216	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C3217	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C3218	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3219	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C3220	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C3221	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3222	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3223	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3224	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C3225	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C3226	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C3227	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C3228	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C3229	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C3230	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C3231	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3232	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3233	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3234	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3235	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3236	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3237	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C3238	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3239	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3240	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3241	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3242	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3243	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C3244	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C3245	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3246	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3247	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3248	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3249	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C3250	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3251	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3252	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3253	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C3254	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C3255	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C3256	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C3257	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C3258	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C3259	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C3260	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3261	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C3262	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3263	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C3264	1-113-985-11	TANTAL. CHIP	10uF	20%	20V
C3265	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C3266	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C3267	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3269	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C3270	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C3271	1-109-982-11	CERAMIC CHIP	1uF	10%	10V

< CONNECTOR >

CN1810	1-573-350-11	CONNECTOR, FFC/FPC 10P
CN2901	1-779-519-31	CONNECTOR, BOARD TO BOARD 100P
CN2902	1-784-421-11	CONNECTOR, FFC/FPC (ZIF) 27P
CN2903	1-784-423-21	CONNECTOR, FFC/FPC (ZIF) 39P
CN2904	1-750-303-41	CONNECTOR, BOARD TO BOARD 20P
CN2905	1-779-334-11	CONNECTOR, FFC/FPC 20P
CN2906	1-774-602-41	CONNECTOR, BOARD TO BOARD 60P
CN2907	1-766-348-21	CONNECTOR, FFC/FPC 18P
CN2911	1-766-647-21	CONNECTOR, FFC/FPC 11P
CN2912	1-784-421-11	CONNECTOR, FFC/FPC (ZIF) 27P
CN2913	1-784-421-11	CONNECTOR, FFC/FPC (ZIF) 27P
CN3200	1-580-057-11	PIN, CONNECTOR 4P
CN3201	1-691-550-11	PIN, CONNECTOR (1.5MM)(SMD) 3P

< DIODE >

D1600	8-719-055-86	DIODE KV1470TL1-3
D2200	8-719-421-27	DIODE MA728-TX
D2201	8-719-421-27	DIODE MA728-TX
D2203	8-719-056-23	DIODE MA2S111-(K8).SO
D2206	8-719-056-23	DIODE MA2S111-(K8).SO
D2207	8-719-421-27	DIODE MA728-TX
D2208	8-719-421-27	DIODE MA728-TX
D2500	8-719-056-23	DIODE MA2S111-(K8).SO
D3200	8-719-421-27	DIODE MA728-TX
D3201	8-719-420-14	DIODE MA8082-TX
D3202	8-719-420-14	DIODE MA8082-TX
D3203	8-719-420-14	DIODE MA8082-TX
D3204	8-719-056-48	DIODE 1SS388(TPL3)
D3205	8-719-066-34	DIODE RB461F-T106
D3206	8-719-066-34	DIODE RB461F-T106

Ref. No.	Part No.	Description	Remarks
D3207	8-719-066-34	DIODE RB461F-T106	
D3208	8-719-056-48	DIODE 1SS388(TPL3)	
D3209	8-719-066-34	DIODE RB461F-T106	
D3210	8-719-066-34	DIODE RB461F-T106	
D3211	8-719-066-34	DIODE RB461F-T106	
D3212	8-719-066-16	DIODE RB491D-T146	
D3213	8-719-027-77	DIODE MA796-TX	
D3214	8-719-066-34	DIODE RB461F-T106	
D3215	8-719-066-34	DIODE RB461F-T106	
D3216	8-719-056-48	DIODE 1SS388(TPL3)	
D3217	8-719-056-48	DIODE 1SS388(TPL3)	
D3220	8-719-056-48	DIODE 1SS388(TPL3)	
D3221	8-719-056-48	DIODE 1SS388(TPL3)	
D3223	8-719-056-48	DIODE 1SS388(TPL3)	
D3224	8-719-056-48	DIODE 1SS388(TPL3)	
D3226	8-719-056-23	DIODE MA2S111-(K8).SO	
D3227	8-719-056-23	DIODE MA2S111-(K8).SO	
		< IC >	
IC1400	8-759-430-57	IC M62367GP-75ED	
IC1402	8-759-534-25	IC AN2222FBQ-EB	
IC1501	8-759-535-44	IC M65511WG-600D	
IC1502	8-759-547-25	IC MB90097PFV-G-110-BND-ER	
IC1600	8-759-545-03	IC HG73C037BPTL	
IC1601	8-752-390-00	IC CXD3129R-T6	
IC1602	8-752-392-25	IC CXD3200R-T6	
IC1814	8-752-086-52	IC CXA2071R-T4	
IC1816	8-752-086-53	IC CXA2072R-T4	
IC1900	8-759-534-27	IC F712504BPM-TEB	
IC2001	8-759-566-17	IC AN2902FHQ-EB	
IC2002	8-759-557-16	IC PCM3006T/T2	
IC2200	8-759-398-90	IC S-81236PG-P7-T1	
IC2201	8-759-424-79	IC S-8423YFS-T2	
IC2203	8-759-536-72	IC TL1596CPWR	
IC2204	8-759-566-97	IC S579286GGB-TEB	
IC2401	8-759-566-14	IC MB91191LGA-G-127-BND-ER	
IC2404	8-759-445-94	IC AK6480AM-E2	
IC2503	8-759-431-30	IC CXA8062R-EB	
IC2504	8-759-385-94	IC CXA8053Q-TE-B	
IC2505	8-759-434-46	IC TA8486F(EL)	
IC3200	8-759-491-09	IC MB4488PFV-G-BND-ER	
		< COIL >	
L1400	1-414-754-11	INDUCTOR 10uH	
L1404	1-414-754-11	INDUCTOR 10uH	
L1500	1-414-757-11	INDUCTOR 100uH	
L1501	1-414-757-11	INDUCTOR 100uH	
L1601	1-412-941-11	INDUCTOR 1.5uH	
L1602	1-414-754-11	INDUCTOR 10uH	
L1603	1-414-754-11	INDUCTOR 10uH	
L1604	1-414-754-11	INDUCTOR 10uH	
L1605	1-414-754-11	INDUCTOR 10uH	
L1803	1-414-754-11	INDUCTOR 10uH	
L1808	1-414-754-11	INDUCTOR 10uH	
L1811	1-414-754-11	INDUCTOR 10uH	
L2004	1-414-754-11	INDUCTOR 10uH	
L2005	1-414-754-11	INDUCTOR 10uH	
L2201	1-414-754-11	INDUCTOR 10uH	

Ref. No.	Part No.	Description	Remarks
L2202	1-414-751-11	INDUCTOR 1uH	
L2400	1-414-754-11	INDUCTOR 10uH	
L2511	1-414-754-11	INDUCTOR 10uH	
L2512	1-414-754-11	INDUCTOR 10uH	
L3204	1-416-345-11	INDUCTOR 22uH	
L3205	1-416-346-11	INDUCTOR 33uH	
L3206	1-416-345-11	INDUCTOR 22uH	
L3207	1-416-345-11	INDUCTOR 22uH	
L3208	1-416-345-11	INDUCTOR 22uH	
L3209	1-416-345-11	INDUCTOR 22uH	
L3210	1-414-396-21	INDUCTOR 4.7uH	
L3211	1-414-396-21	INDUCTOR 4.7uH	
L3212	1-414-396-21	INDUCTOR 4.7uH	
L3213	1-414-396-21	INDUCTOR 4.7uH	
L3214	1-414-396-21	INDUCTOR 4.7uH	
L3215	1-414-396-21	INDUCTOR 4.7uH	
L3216	1-414-396-21	INDUCTOR 4.7uH	
L3217	1-414-396-21	INDUCTOR 4.7uH	
L3218	1-414-396-21	INDUCTOR 4.7uH	
		< LINE FILTER >	
LF3200	1-411-957-11	FILTER, COMMON MODE	
		< IC LINK >	
⚠PS2200	1-576-122-21	LINK, IC 0.4A	
⚠PS3200	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3201	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3202	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3203	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3204	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3205	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3206	1-533-760-21	FUSE (SMD) 1.4A	
		< TRANSISTOR >	
Q1400	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q1402	8-729-037-61	TRANSISTOR UN9113J-(K8).SO	
Q1403	8-729-040-77	TRANSISTOR 2SC5376-B(TE85L)	
Q1405	8-729-040-77	TRANSISTOR 2SC5376-B(TE85L)	
Q1406	8-729-040-77	TRANSISTOR 2SC5376-B(TE85L)	
Q1500	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q1501	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q1502	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q1810	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q2003	8-729-037-61	TRANSISTOR UN9113J-(K8).SO	
Q2004	8-729-037-71	TRANSISTOR UN9210J-(K8).SO	
Q2005	8-729-037-71	TRANSISTOR UN9210J-(K8).SO	
Q2006	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q2007	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q2008	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q2009	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q2011	8-729-037-63	TRANSISTOR UN9115J-(K8).SO	
Q2012	8-729-037-63	TRANSISTOR UN9115J-(K8).SO	
Q2013	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q2014	8-729-024-39	TRANSISTOR 2SD1511-R/S(TX)	

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
Q2200	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q2201	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q2202	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q2203	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q2206	8-729-041-43	TRANSISTOR HN1L02FU(TE85R)	
Q2211	8-729-042-58	TRANSISTOR UN9111J-(K8).SO	
Q2212	8-729-028-27	TRANSISTOR 2SK2009(TE85L)	
Q2213	8-729-427-70	TRANSISTOR XP4401-TXE	
Q2214	8-729-037-61	TRANSISTOR UN9113J-(K8).SO	
Q2216	8-729-141-48	TRANSISTOR 2SB624-T1BV4	
Q2217	8-729-037-72	TRANSISTOR UN9211J-(K8).SO	
Q2218	8-729-037-72	TRANSISTOR UN9211J-(K8).SO	
Q2219	8-729-037-72	TRANSISTOR UN9211J-(K8).SO	
Q2220	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q2221	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q2505	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q2506	8-729-141-48	TRANSISTOR 2SB624-T1BV4	
Q2507	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q2901	8-729-037-72	TRANSISTOR UN9211J-(K8).SO	
Q3200	8-729-024-48	TRANSISTOR 2SK1830-TE85L	
⚠Q3201	8-729-036-43	TRANSISTOR HAT1023R-EL	
⚠Q3202	8-729-036-43	TRANSISTOR HAT1023R-EL	
Q3203	8-729-804-41	TRANSISTOR 2SB1122-ST-TD	
Q3204	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q3205	8-729-024-48	TRANSISTOR 2SK1830-TE85L	
Q3206	8-729-822-05	TRANSISTOR 2SD1622-ST-TD	
Q3207	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q3208	8-729-804-41	TRANSISTOR 2SB1122-ST-TD	
Q3209	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q3210	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q3211	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q3212	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q3213	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q3214	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q3215	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3216	8-729-017-61	TRANSISTOR 2SB1581-T1	
Q3217	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q3218	8-729-041-24	TRANSISTOR NDS355AN	
Q3219	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3220	8-729-041-24	TRANSISTOR NDS355AN	
Q3221	8-729-041-24	TRANSISTOR NDS355AN	
Q3222	8-729-041-24	TRANSISTOR NDS355AN	
Q3223	8-729-041-24	TRANSISTOR NDS355AN	
Q3224	8-729-041-24	TRANSISTOR NDS355AN	
Q3225	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q3226	8-729-042-56	TRANSISTOR MGSF3455VT1	
Q3227	8-729-037-61	TRANSISTOR UN9113J-(K8).SO	
Q3228	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q3229	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q3230	8-729-041-23	TRANSISTOR NDS356AP	
Q3231	8-729-041-23	TRANSISTOR NDS356AP	
Q3232	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3233	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q3234	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3235	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q3236	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q3237	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3238	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3239	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q3240	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	

Ref. No.	Part No.	Description	Remarks
Q3241	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3242	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3243	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3244	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q3245	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3246	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3247	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q3248	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q3249	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q3250	8-729-041-23	TRANSISTOR NDS356AP	
Q3251	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
Q3252	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q3253	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
Q3254	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	

< RESISTOR >

R1400	1-218-981-11	RES,CHIP	220K	5%	1/16W
R1401	1-218-941-11	RES,CHIP	100	5%	1/16W
R1403	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R1410	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R1411	1-218-953-11	RES,CHIP	1K	5%	1/16W
R1414	1-218-969-11	RES,CHIP	22K	5%	1/16W
R1417	1-218-965-11	RES,CHIP	10K	5%	1/16W
R1418	1-218-969-11	RES,CHIP	22K	5%	1/16W
R1419	1-218-953-11	RES,CHIP	1K	5%	1/16W
R1421	1-218-953-11	RES,CHIP	1K	5%	1/16W
R1425	1-218-935-11	RES,CHIP	33	5%	1/16W
R1426	1-218-965-11	RES,CHIP	10K	5%	1/16W
R1430	1-218-953-11	RES,CHIP	1K	5%	1/16W
R1432	1-218-965-11	RES,CHIP	10K	5%	1/16W
R1433	1-218-953-11	RES,CHIP	1K	5%	1/16W
R1434	1-218-965-11	RES,CHIP	10K	5%	1/16W
R1438	1-218-935-11	RES,CHIP	33	5%	1/16W
R1439	1-218-935-11	RES,CHIP	33	5%	1/16W
R1440	1-218-965-11	RES,CHIP	10K	5%	1/16W
R1445	1-218-935-11	RES,CHIP	33	5%	1/16W
R1446	1-218-935-11	RES,CHIP	33	5%	1/16W
R1447	1-218-935-11	RES,CHIP	33	5%	1/16W
R1453	1-218-939-11	RES,CHIP	68	5%	1/16W
R1454	1-218-989-11	RES,CHIP	1M	5%	1/16W
R1455	1-218-957-11	RES,CHIP	2.2K	5%	1/16W
R1507	1-218-949-11	RES,CHIP	470	5%	1/16W
R1508	1-218-959-11	RES,CHIP	3.3K	5%	1/16W
R1509	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R1510	1-218-949-11	RES,CHIP	470	5%	1/16W
R1511	1-218-959-11	RES,CHIP	3.3K	5%	1/16W
R1512	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R1513	1-218-955-11	RES,CHIP	1.5K	5%	1/16W
R1514	1-218-949-11	RES,CHIP	470	5%	1/16W
R1515	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R1516	1-218-951-11	RES,CHIP	680	5%	1/16W
R1517	1-218-990-11	SHORT	0		
R1519	1-218-990-11	SHORT	0		
R1521	1-218-947-11	RES,CHIP	330	5%	1/16W
R1522	1-216-864-11	METAL CHIP	0	5%	1/16W
R1618	1-218-961-11	RES,CHIP	4.7K	5%	1/16W

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description				Remarks
R1619	1-218-947-11	RES,CHIP		330	5%	1/16W
R1621	1-218-965-11	RES,CHIP		10K	5%	1/16W
R1622	1-218-965-11	RES,CHIP		10K	5%	1/16W
R1623	1-218-990-11	SHORT	0			
R1624	1-218-990-11	SHORT	0			
R1625	1-218-990-11	SHORT	0			
R1626	1-218-990-11	SHORT	0			
R1627	1-218-990-11	SHORT	0			
R1628	1-218-990-11	SHORT	0			
R1629	1-218-990-11	SHORT	0			
R1630	1-218-990-11	SHORT	0			
R1632	1-218-849-11	RES,CHIP		1.2K	0.50%	1/16W
R1633	1-208-703-11	RES,CHIP		6.8K	0.50%	1/16W
R1635	1-218-849-11	RES,CHIP		1.2K	0.50%	1/16W
R1638	1-218-990-11	SHORT	0			
R1639	1-218-990-11	SHORT	0			
R1641	1-218-990-11	SHORT	0			
R1642	1-218-990-11	SHORT	0			
R1644	1-218-990-11	SHORT	0			
R1647	1-218-990-11	SHORT	0			
R1649	1-218-990-11	SHORT	0			
R1651	1-218-990-11	SHORT	0			
R1652	1-218-990-11	SHORT	0			
R1653	1-218-990-11	SHORT	0			
R1654	1-218-990-11	SHORT	0			
R1689	1-218-937-11	RES,CHIP		47	5%	1/16W
R1694	1-218-938-11	RES,CHIP		56	0.50%	1/16W
R1695	1-218-938-11	RES,CHIP		56	0.50%	1/16W
R1696	1-208-707-11	RES,CHIP		10K	0.50%	1/16W
R1697	1-208-707-11	RES,CHIP		10K	0.50%	1/16W
R1698	1-218-938-11	RES,CHIP		56	0.50%	1/16W
R1699	1-218-938-11	RES,CHIP		56	0.50%	1/16W
R1826	1-218-979-11	RES,CHIP		150K	5%	1/16W
R1828	1-218-949-11	RES,CHIP		470	5%	1/16W
R1834	1-218-969-11	RES,CHIP		22K	5%	1/16W
R1836	1-218-965-11	RES,CHIP		10K	5%	1/16W
R1837	1-218-965-11	RES,CHIP		10K	5%	1/16W
R1838	1-218-969-11	RES,CHIP		22K	5%	1/16W
R1843	1-218-831-11	RES,CHIP		220	0.50%	1/16W
R1848	1-218-965-11	RES,CHIP		10K	5%	1/16W
R1852	1-218-961-11	RES,CHIP		4.7K	5%	1/16W
R1855	1-218-831-11	RES,CHIP		220	0.50%	1/16W
R1857	1-218-831-11	RES,CHIP		220	0.50%	1/16W
R1859	1-218-831-11	RES,CHIP		220	0.50%	1/16W
R1869	1-218-966-11	RES,CHIP		12K	5%	1/16W
R1870	1-218-965-11	RES,CHIP		10K	5%	1/16W
R1871	1-218-939-11	RES,CHIP		68	5%	1/16W
R1872	1-218-990-11	SHORT	0			
R1874	1-218-989-11	RES,CHIP		1M	5%	1/16W
R1875	1-218-965-11	RES,CHIP		10K	5%	1/16W
R1876	1-218-963-11	RES,CHIP		6.8K	5%	1/16W
R1877	1-218-978-11	RES,CHIP		120K	5%	1/16W
R1878	1-218-973-11	RES,CHIP		47K	5%	1/16W
R1879	1-218-966-11	RES,CHIP		12K	5%	1/16W
R1909	1-218-931-11	RES,CHIP		15	5%	1/16W
R1938	1-218-977-11	RES,CHIP		100K	5%	1/16W
R1939	1-218-990-11	SHORT	0			
R1940	1-218-990-11	SHORT	0			
R1941	1-218-990-11	SHORT	0			
R1942	1-218-990-11	SHORT	0			
R1943	1-218-990-11	SHORT	0			
R1945	1-218-990-11	SHORT	0			
R2017	1-218-936-11	RES,CHIP		39	5%	1/16W
R2018	1-218-935-11	RES,CHIP		33	5%	1/16W
R2019	1-218-953-11	RES,CHIP		1K	5%	1/16W
R2021	1-218-965-11	RES,CHIP		10K	5%	1/16W
R2022	1-218-965-11	RES,CHIP		10K	5%	1/16W
R2023	1-218-953-11	RES,CHIP		1K	5%	1/16W
R2028	1-218-973-11	RES,CHIP		47K	5%	1/16W
R2029	1-218-973-11	RES,CHIP		47K	5%	1/16W
R2031	1-218-965-11	RES,CHIP		10K	5%	1/16W
R2032	1-218-965-11	RES,CHIP		10K	5%	1/16W
R2038	1-218-973-11	RES,CHIP		47K	5%	1/16W
R2040	1-218-969-11	RES,CHIP		22K	5%	1/16W
R2041	1-218-969-11	RES,CHIP		22K	5%	1/16W
R2052	1-218-990-11	SHORT	0			
R2053	1-218-990-11	SHORT	0			
R2054	1-218-960-11	RES,CHIP		3.9K	5%	1/16W
R2055	1-218-968-11	RES,CHIP		18K	5%	1/16W
R2056	1-218-936-11	RES,CHIP		39	5%	1/16W
R2057	1-218-935-11	RES,CHIP		33	5%	1/16W
R2058	1-218-957-11	RES,CHIP		2.2K	5%	1/16W
R2059	1-218-957-11	RES,CHIP		2.2K	5%	1/16W
R2060	1-218-957-11	RES,CHIP		2.2K	5%	1/16W
R2061	1-218-957-11	RES,CHIP		2.2K	5%	1/16W
R2062	1-218-949-11	RES,CHIP		470	5%	1/16W
R2063	1-218-949-11	RES,CHIP		470	5%	1/16W
R2064	1-218-953-11	RES,CHIP		1K	5%	1/16W
R2065	1-218-951-11	RES,CHIP		680	5%	1/16W
R2066	1-218-965-11	RES,CHIP		10K	5%	1/16W
R2201	1-218-953-11	RES,CHIP		1K	5%	1/16W
R2203	1-218-953-11	RES,CHIP		1K	5%	1/16W
R2204	1-218-953-11	RES,CHIP		1K	5%	1/16W
R2205	1-218-977-11	RES,CHIP		100K	5%	1/16W
R2206	1-218-945-11	RES,CHIP		220	5%	1/16W
R2207	1-218-957-11	RES,CHIP		2.2K	5%	1/16W
R2208	1-218-961-11	RES,CHIP		4.7K	5%	1/16W
R2209	1-218-973-11	RES,CHIP		47K	5%	1/16W
R2210	1-218-977-11	RES,CHIP		100K	5%	1/16W
R2213	1-218-953-11	RES,CHIP		1K	5%	1/16W
R2214	1-218-953-11	RES,CHIP		1K	5%	1/16W
R2215	1-218-985-11	RES,CHIP		470K	5%	1/16W
R2221	1-218-985-11	RES,CHIP		470K	5%	1/16W
R2222	1-218-985-11	RES,CHIP		470K	5%	1/16W
R2223	1-218-985-11	RES,CHIP		470K	5%	1/16W
R2224	1-218-985-11	RES,CHIP		470K	5%	1/16W
R2225	1-218-985-11	RES,CHIP		470K	5%	1/16W
R2226	1-218-985-11	RES,CHIP		470K	5%	1/16W
R2227	1-218-977-11	RES,CHIP		100K	5%	1/16W
R2229	1-218-985-11	RES,CHIP		470K	5%	1/16W
R2230	1-218-985-11	RES,CHIP		470K	5%	1/16W
R2231	1-218-973-11	RES,CHIP		47K	5%	1/16W
R2232	1-218-965-11	RES,CHIP		10K	5%	1/16W
R2233	1-218-958-11	RES,CHIP		2.7K	5%	1/16W
R2234	1-218-934-11	RES,CHIP		27	5%	1/16W
R2235	1-218-989-11	RES,CHIP		1M	5%	1/16W
R2236	1-218-985-11	RES,CHIP		470K	0.50%	1/16W
R2237	1-218-985-11	RES,CHIP		470K	0.50%	1/16W
R2238	1-218-989-11	RES,CHIP		1M	0.50%	1/16W
R2239	1-218-989-11	RES,CHIP		1M	0.50%	1/16W

Ref. No.	Part No.	Description			Remarks
R2240	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2241	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2242	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2245	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2246	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2247	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2248	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2249	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2250	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2251	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2252	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2253	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2254	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2255	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2256	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2257	1-218-973-11	RES,CHIP	47K	5%	1/16W
R2258	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2259	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2260	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2261	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2262	1-219-570-11	RES,CHIP	10M	5%	1/16W
R2263	1-218-962-11	RES,CHIP	5.6K	5%	1/16W
R2264	1-218-957-11	RES,CHIP	2.2K	5%	1/16W
R2265	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2266	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2267	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2268	1-218-949-11	RES,CHIP	470	5%	1/16W
R2269	1-218-955-11	RES,CHIP	1.5K	5%	1/16W
R2270	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2271	1-216-791-11	METAL CHIP	3.3	5%	1/16W
R2272	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R2273	1-218-959-11	RES,CHIP	3.3K	5%	1/16W
R2274	1-218-959-11	RES,CHIP	3.3K	5%	1/16W
R2275	1-218-959-11	RES,CHIP	3.3K	5%	1/16W
R2276	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2277	1-218-941-11	RES,CHIP	100	5%	1/16W
R2278	1-218-941-11	RES,CHIP	100	5%	1/16W
R2279	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2280	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2281	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2282	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2283	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2284	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2285	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2286	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2287	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2288	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2289	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2290	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2291	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2292	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2293	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2294	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2295	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2296	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2297	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2298	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2299	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2300	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2301	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2302	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2303	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2304	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2401	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2405	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2406	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2407	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2408	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2409	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2410	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2411	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2415	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2416	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2417	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2418	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2419	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2420	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2421	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2422	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2423	1-218-953-11	RES,CHIP	1K	5%	1/16W
R2424	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2425	1-218-990-11	SHORT	0		
R2426	1-218-990-11	SHORT	0		
R2427	1-218-990-11	SHORT	0		
R2428	1-218-990-11	SHORT	0		
R2429	1-208-943-11	RES,CHIP	220K	0.50%	1/16W
R2430	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R2432	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2433	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2434	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2436	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2439	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2440	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2441	1-218-985-11	RES,CHIP	470K	5%	1/16W
R2442	1-218-990-11	SHORT	0		
R2445	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R2505	1-218-965-11	RES,CHIP	10K	5%	1/16W
R2506	1-208-707-11	RES,CHIP	10K	0.50%	1/16W
R2507	1-218-965-11	RES,CHIP	10K	5%	1/16W
R2508	1-218-965-11	RES,CHIP	10K	5%	1/16W
R2510	1-218-959-11	RES,CHIP	3.3K	5%	1/16W
R2511	1-208-935-11	RES,CHIP	100K	0.50%	1/16W
R2512	1-218-990-11	SHORT	0		
R2517	1-218-989-11	RES,CHIP	1M	5%	1/16W
R2530	1-218-971-11	RES,CHIP	33K	5%	1/16W
R2531	1-217-671-11	METAL CHIP	1	5%	1/10W
R2532	1-217-671-11	METAL CHIP	1	5%	1/10W
R2533	1-217-671-11	METAL CHIP	1	5%	1/10W
R2534	1-218-940-11	RES,CHIP	82	5%	1/16W
R2546	1-218-979-11	RES,CHIP	150K	5%	1/16W
R2547	1-218-965-11	RES,CHIP	10K	5%	1/16W
R2549	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R2550	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R2551	1-208-675-11	RES,CHIP	470	0.50%	1/16W
R2552	1-218-965-11	RES,CHIP	10K	5%	1/16W
R2553	1-218-965-11	RES,CHIP	10K	5%	1/16W
R2554	1-218-965-11	RES,CHIP	10K	5%	1/16W
R2556	1-218-978-11	RES,CHIP	120K	5%	1/16W
R2557	1-218-986-11	RES,CHIP	560K	5%	1/16W
R2558	1-218-953-11	RES,CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R2559	1-218-969-11	RES,CHIP	22K	5%	1/16W
R2560	1-218-969-11	RES,CHIP	22K	5%	1/16W
R2564	1-217-671-11	METAL CHIP	1	5%	1/10W
R2565	1-217-671-11	METAL CHIP	1	5%	1/10W
R2566	1-218-941-11	RES,CHIP	100	5%	1/16W
R2567	1-218-941-11	RES,CHIP	100	5%	1/16W
R2568	1-218-941-11	RES,CHIP	100	5%	1/16W
R2569	1-218-957-11	RES,CHIP	2.2K	5%	1/16W
R2570	1-218-977-11	RES,CHIP	100K	5%	1/16W
R2571	1-218-970-11	RES,CHIP	27K	5%	1/16W
R2572	1-218-965-11	RES,CHIP	10K	5%	1/16W
R2573	1-218-949-11	RES,CHIP	470	5%	1/16W
R2574	1-217-671-11	METAL CHIP	1	5%	1/10W
R2575	1-217-671-11	METAL CHIP	1	5%	1/10W
R2576	1-217-671-11	METAL CHIP	1	5%	1/10W
R2577	1-217-671-11	METAL CHIP	1	5%	1/10W
R2578	1-218-973-11	RES,CHIP	47K	5%	1/16W
R2579	1-218-965-11	RES,CHIP	10K	5%	1/16W
R2580	1-218-935-11	RES,CHIP	33	5%	1/16W
R2581	1-218-935-11	RES,CHIP	33	5%	1/16W
R2582	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R2583	1-218-965-11	RES,CHIP	10K	5%	1/16W
R2585	1-218-959-11	RES,CHIP	3.3K	5%	1/16W
R2586	1-218-944-11	RES,CHIP	180	5%	1/16W
R2587	1-218-969-11	RES,CHIP	22K	5%	1/16W
R2599	1-217-671-11	METAL CHIP	1	5%	1/10W
R2901	1-217-671-11	METAL CHIP	1	5%	1/10W
R2902	1-217-671-11	METAL CHIP	1	5%	1/10W
R2903	1-218-990-11	SHORT	0		
R2905	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R2906	1-218-990-11	SHORT	0		
R2907	1-218-990-11	SHORT	0		
R3200	1-218-989-11	RES,CHIP	1M	5%	1/16W
R3201	1-218-989-11	RES,CHIP	1M	5%	1/16W
R3202	1-218-849-11	RES,CHIP	3.3K	0.50%	1/16W
R3203	1-216-150-91	RES,CHIP	10	5%	1/8W
R3204	1-218-953-11	RES,CHIP	1K	5%	1/16W
R3205	1-218-953-11	RES,CHIP	1K	5%	1/16W
R3206	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R3207	1-218-849-11	RES,CHIP	3.3K	0.50%	1/16W
R3208	1-218-973-11	RES,CHIP	47K	5%	1/16W
R3209	1-208-715-11	RES,CHIP	22K	0.50%	1/16W
R3210	1-218-981-11	RES,CHIP	220K	5%	1/16W
R3211	1-216-296-91	SHORT	0		
R3212	1-208-707-11	RES,CHIP	10K	0.50%	1/16W
R3213	1-208-935-11	RES,CHIP	100K	0.50%	1/16W
R3214	1-218-953-11	RES,CHIP	1K	5%	1/16W
R3215	1-216-296-91	SHORT	0		
R3216	1-216-296-91	SHORT	0		
R3217	1-218-953-11	RES,CHIP	1K	5%	1/16W
R3218	1-208-715-11	RES,CHIP	22K	0.50%	1/16W
R3219	1-218-849-11	RES,CHIP	1.2K	0.50%	1/16W
R3220	1-208-715-11	RES,CHIP	22K	0.50%	1/16W
R3221	1-218-969-11	RES,CHIP	22K	5%	1/16W
R3222	1-218-965-11	RES,CHIP	10K	5%	1/16W
R3223	1-208-707-11	RES,CHIP	10K	0.50%	1/16W
R3224	1-208-931-11	RES,CHIP	68K	0.50%	1/16W
R3225	1-218-970-11	RES,CHIP	27K	5%	1/16W
R3226	1-218-973-11	RES,CHIP	47K	5%	1/16W
R3227	1-218-977-11	RES,CHIP	100K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R3228	1-218-969-11	RES,CHIP	22K	5%	1/16W
R3230	1-218-965-11	RES,CHIP	10K	5%	1/16W
R3231	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R3232	1-218-969-11	RES,CHIP	22K	5%	1/16W
R3233	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R3234	1-218-971-11	RES,CHIP	33K	5%	1/16W
R3235	1-208-715-11	RES,CHIP	22K	0.50%	1/16W
R3236	1-218-965-11	RES,CHIP	10K	5%	1/16W
R3237	1-218-974-11	RES,CHIP	56K	0.50%	1/16W
R3238	1-218-974-11	RES,CHIP	56K	0.50%	1/16W
R3239	1-208-715-11	RES,CHIP	22K	0.50%	1/16W
R3240	1-208-935-11	RES,CHIP	100K	0.50%	1/16W
R3241	1-218-945-11	RES,CHIP	220	5%	1/16W
R3242	1-208-709-11	RES,CHIP	12K	0.50%	1/16W
R3243	1-208-697-11	RES,CHIP	3.9K	0.50%	1/16W
R3244	1-208-697-11	RES,CHIP	3.9K	0.50%	1/16W
R3245	1-208-691-11	RES,CHIP	2.2K	0.50%	1/16W
R3246	1-216-296-91	SHORT	0		
R3247	1-218-965-11	RES,CHIP	10K	5%	1/16W
R3248	1-218-945-11	RES,CHIP	220	5%	1/16W
R3249	1-218-945-11	RES,CHIP	220	5%	1/16W
R3250	1-218-969-11	RES,CHIP	22K	5%	1/16W
R3251	1-218-973-11	RES,CHIP	47K	5%	1/16W
R3252	1-218-941-11	RES,CHIP	100	5%	1/16W
R3253	1-218-941-11	RES,CHIP	100	5%	1/16W
R3254	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R3255	1-218-945-11	RES,CHIP	220	5%	1/16W
R3256	1-218-947-11	RES,CHIP	330	5%	1/16W
R3257	1-218-973-11	RES,CHIP	47K	5%	1/16W
R3258	1-218-965-11	RES,CHIP	10K	5%	1/16W
R3259	1-208-719-11	RES,CHIP	33K	0.50%	1/16W
R3260	1-208-715-11	RES,CHIP	22K	0.50%	1/16W
R3261	1-218-965-11	RES,CHIP	10K	5%	1/16W
R3262	1-218-989-11	RES,CHIP	1M	5%	1/16W
R3263	1-216-864-11	METAL CHIP	0	5%	1/16W
R3264	1-218-981-11	RES,CHIP	220K	5%	1/16W
R3265	1-218-973-11	RES,CHIP	47K	5%	1/16W
R3266	1-218-969-11	RES,CHIP	22K	5%	1/16W
R3267	1-218-989-11	RES,CHIP	1M	5%	1/16W
R3268	1-218-981-11	RES,CHIP	220K	5%	1/16W
R3269	1-218-977-11	RES,CHIP	100K	5%	1/16W
R3270	1-218-989-11	RES,CHIP	1M	5%	1/16W
R3271	1-218-977-11	RES,CHIP	100K	5%	1/16W
R3272	1-218-973-11	RES,CHIP	47K	5%	1/16W
R3273	1-218-965-11	RES,CHIP	10K	5%	1/16W
R3274	1-218-977-11	RES,CHIP	100K	5%	1/16W
R3275	1-218-988-11	RES,CHIP	820K	5%	1/16W
R3276	1-218-977-11	RES,CHIP	100K	5%	1/16W
R3277	1-218-969-11	RES,CHIP	22K	5%	1/16W
R3278	1-208-949-11	RES,CHIP	390K	0.50%	1/16W
R3279	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R3280	1-218-978-11	RES,CHIP	120K	0.50%	1/16W
R3281	1-208-939-11	RES,CHIP	150K	0.50%	1/16W
R3282	1-208-927-11	RES,CHIP	47K	0.50%	1/16W
R3283	1-208-935-11	RES,CHIP	100K	0.50%	1/16W
R3284	1-208-719-11	RES,CHIP	33K	0.50%	1/16W
R3285	1-208-943-11	RES,CHIP	220K	0.50%	1/16W
R3286	1-208-947-11	RES,CHIP	330K	0.50%	1/16W
R3287	1-208-935-11	RES,CHIP	100K	0.50%	1/16W
R3288	1-218-977-11	RES,CHIP	100K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R3289	1-218-977-11	RES,CHIP	100K	5%	1/16W
R3290	1-218-969-11	RES,CHIP	22K	5%	1/16W
R3291	1-218-989-11	RES,CHIP	1M	5%	1/16W
R3292	1-218-977-11	RES,CHIP	100K	5%	1/16W
R3293	1-218-981-11	RES,CHIP	220K	5%	1/16W
R3294	1-208-943-11	RES,CHIP	220K	0.50%	1/16W
R3295	1-218-978-11	RES,CHIP	120K	0.50%	1/16W
R3296	1-208-941-11	RES,CHIP	180K	0.50%	1/16W
R3297	1-218-990-11	SHORT	0		
R3298	1-208-943-11	RES,CHIP	220K	0.50%	1/16W
R3299	1-218-990-11	SHORT	0		
R3300	1-218-965-11	RES,CHIP	10K	5%	1/16W
R3301	1-218-990-11	SHORT	0		
R3302	1-218-953-11	RES,CHIP	1K	5%	1/16W
R3303	1-218-953-11	RES,CHIP	1K	5%	1/16W
		< TRANSFORMER >			
T3200	1-433-417-21	TRANSFORMER, DC-DC CONVERTER			
T3201	1-429-565-21	TRANSFORMER, CONVERTER			
		< VIBRATOR >			
X1600	1-767-399-11	VIBRATOR, CRYSTAL (24.576 MHz)			
X2200	1-767-450-11	VIBRATOR, CERAMIC (20MHz)			
X2201	1-760-458-21	VIBRATOR, CRYSTAL (32.768MHz)			
X2400	1-760-655-41	VIBRATOR, CRYSTAL (20MHz)			
	A-7073-738-A	XL-2 BOARD, COMPLETE			
		**********			
		(Ref.No.:9,000 Series)			
		< CAPACITOR >			
C101	1-113-985-11	TANTAL. CHIP	10uF	20%	20V
C102	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C103	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C104	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C105	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C106	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C107	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C108	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C109	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C110	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C111	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C112	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C113	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C114	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C115	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C116	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C117	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C118	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C119	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C120	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C121	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C122	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C123	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C124	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C125	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C126	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C127	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C128	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C129	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C130	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V

Ref. No.	Part No.	Description			Remarks
C131	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C132	1-162-920-11	CERAMIC CHIP	27pF	5%	50V
C133	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN101	1-691-591-11	PIN, CONNECTOR (1.5MM) (SMD)8P			
CN102	1-568-006-11	CONNECTOR, XLR TYPE 3P (MIC IN)			
		< DIODE >			
D101	8-719-056-89	DIODE MA8120-TX			
D102	8-719-056-89	DIODE MA8120-TX			
D103	8-719-060-48	DIODE RB751V-40TE-17			
D104	8-719-060-48	DIODE RB751V-40TE-17			
D105	8-719-060-48	DIODE RB751V-40TE-17			
D106	8-719-060-48	DIODE RB751V-40TE-17			
D107	8-719-420-14	DIODE MA8082-TX			
D108	8-719-420-14	DIODE MA8082-TX			
D109	8-719-056-89	DIODE MA8120-TX			
D110	8-719-056-89	DIODE MA8120-TX			
		< IC >			
IC101	8-759-478-03	IC RN5RL50AA-TL			
IC102	8-759-111-56	IC uPC4572G2-E2			
IC103	8-759-111-56	IC uPC4572G2-E2			
		< COIL >			
L101	1-414-398-11	INDUCTOR 10uH			
L102	1-414-398-11	INDUCTOR 10uH			
L103	1-414-398-11	INDUCTOR 10uH			
L104	1-414-854-11	INDUCTOR 10uH			
		< IC LINK >			
⚠PS101	1-533-771-21	FUSE (SMD)(0.8A)			
		< TRANSISTOR >			
Q101	8-729-041-23	TRANSISTOR NDS356AP			
Q102	8-729-117-32	TRANSISTOR 2SC4177-T1L5L6			
		< RESISTOR >			
R101	1-216-853-11	METAL CHIP	470K	5%	1/16W
R102	1-216-809-11	METAL CHIP	100	5%	1/16W
R103	1-216-845-11	METAL CHIP	100K	5%	1/16W
R104	1-216-083-00	METAL CHIP	27K	5%	1/10W
R105	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W
R106	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W
R107	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W
R108	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W
R109	1-218-887-11	RES,CHIP	47K	0.50%	1/16W
R110	1-218-885-11	RES,CHIP	39K	0.50%	1/16W
R111	1-218-847-11	RES,CHIP	1K	0.50%	1/16W
R112	1-218-825-11	RES,CHIP	120	0.50%	1/16W
R113	1-218-866-11	RES,CHIP	120K	0.50%	1/16W
R114	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W
R115	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
R116	1-216-845-11	METAL CHIP	100K	5%	1/16W
R117	1-216-845-11	METAL CHIP	100K	5%	1/16W
R118	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R119	1-220-300-91	RES,CHIP	6.8K	5%	1/2W
R120	1-220-300-91	RES,CHIP	6.8K	5%	1/2W
R121	1-218-855-11	RES,CHIP	2.2K	0.50%	1/16W
R122	1-216-841-11	METAL CHIP	47K	5%	1/16W
R123	1-216-296-91	SHORT	0		
		< SWITCH >			
S101	1-570-711-11	SWITCH, SLIDE			
S102	1-570-711-11	SWITCH, SLIDE			

MISCELLANEOUS
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53	1-670-982-11	FP-14 FLEXIBLE BOARD
61	1-670-976-21	FP-8 FLEXIBLE BOARD
62	1-670-980-11	FP-12 FLEXIBLE BOARD
103	1-670-979-11	FP-11 FLEXIBLE BOARD
107	1-670-990-21	FP-23 FLEXIBLE BOARD
116	1-475-949-21	SWITCH BLOCK, CONTROL(FK-4880)
119	1-774-867-31	CONNECTOR,EXTERNAL(HOT SHOE)8P
152	1-670-981-21	FP-13 FLEXIBLE BOARD
157	1-670-977-21	FP-9 FLEXIBLE BOARD
160	1-505-619-11	SPEAKER (2.0 CM)
203	1-670-983-21	FP-16 FLEXIBLE BOARD
217	1-958-983-11	HARNESS (CP-81)
218	1-958-984-11	HARNESS (CP-82)
⚠221	1-517-754-21	TUBE, FLUORESCENT,COLD CATHODE
222	1-803-274-21	MODULE, CRYSTAL INDICATION
224	1-670-986-21	FP-19 FLEXIBLE BOARD
252	1-694-411-11	TERMINAL BOARD, BATTERY
261	1-785-247-11	CONNECTOR, DC-IN
263	1-670-985-21	FP-18 FLEXIBLE BOARD
303	1-670-984-11	FP-17 FLEXIBLE BOARD
310	1-670-987-21	FP-20 FLEXIBLE BOARD
318	1-670-978-11	FP-10 FLEXIBLE BOARD
352	1-670-987-21	FP-20 FLEXIBLE BOARD
355	8-753-023-51	LCX027AK-1
402	1-418-014-11	MICROPHONE UNIT
423	1-670-991-11	FP-37 FLEXIBLE BOARD
425	1-670-989-21	FP-22 FLEXIBLE BOARD
426	1-670-988-21	FP-21 FLEXIBLE BOARD (Including S700, S701, S702)
453	1-758-174-11	LENS, ZOOM (VCL-4312VA)
460	A-7093-999-A	PRISM ASSY (PD100) (Including three CCD imagers)
460	A-7030-948-A	PRISM ASSY (PD100P) (Including three CCD imagers)

Ref. No.	Part No.	Description	Remarks
502	1-959-236-11	HARNESS (XL-51)	
516	1-774-868-11	PLUG, CONNECTOR 8P	
CN901	1-784-723-11	PIN, CONNECTOR 4P	
D901	8-719-067-13	DIODE GL453K	
H901	8-719-061-28	DIODE HW-105C-FT-V (T REEL SENSOR)	
H902	8-719-061-28	DIODE HW-105C-FT-V (S REEL SENSOR)	
M901	A-7048-889-A	DRUM ASSY (DEH-14B-R)	
M902	8-835-606-01	MOTOR, DC SCD15A/C-NP (CAPSTAN)	
M903	X-3948-346-1	MOTOR ASSY, L (LOADING)	
PH700	8-749-014-54	HIC CNA1312K01S0	
PH701	8-749-014-54	HIC CNA1312K01S0	
Q901	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE END)	
Q902	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE TOP)	
S700	1-771-487-21	SWITCH, SLIDE	
S701	1-762-851-21	SWITCH, TACT	
S702	1-762-851-21	SWITCH, TACT	
S901	1-771-039-51	SWITCH, PUSH (C IN SW)	
S902	1-572-719-32	SWITCH, PUSH (1 KEY)(REC PROOF)	
S903	1-771-325-11	ENCODER, ROTARY (SWITCH)(MODE)	

ACCESSORIES
****

⚠	1-475-599-11	ADAPTOR, AC (AC-L10A)
	1-543-798-11	FILTER, CLAMP (FERRITE CORE)
⚠	1-690-827-11	CORD SET, POWER (PD100P)
	1-475-950-21	REMOTE COMMANDER (RMT-811)
	1-765-080-11	CORD, CONNECTION (A/V)(1.5m)
⚠	1-775-549-21	CORD, POWER (PD100)
Fig A	1-959-249-11	CORD, CONNECTION (FOR KEYBOARD, WITH ADAPTOR)
Fig B	1-959-250-11	PC CARD/PARALLEL PORT ADAPTOR (MSAC-PR1)
	3-052-849-01	LID, HOOD (FOR WIDE CONVERSION LENS)
	3-053-100-01	CD-ROM, INSTALL
	3-053-549-01	CAP, WIDE CONVERSION (58.5 ∅)
	3-053-550-01	CAP, WIDE CONVERSION (85 ∅)
	3-865-078-11	MANUAL, INSTRUCTION (ENGLISH) (PD100/PD100P)
	3-865-078-21	MANUAL, INSTRUCTION (FRENCH) (PD100/PD100P)
	3-865-078-31	MANUAL, INSTRUCTION (GERMAN)(PD100)
	3-865-078-41	MANUAL, INSTRUCTION (ITALIAN)(PD100P)
	3-865-272-11	MANUAL, INSTRUCTION (CD-ROM INSTALL) (ENGLISH)
	3-970-278-01	POUCH
	3-987-015-01	BELT (S), SHOULDER
	3-052-859-01	WIDE CONVERSION
	A-7093-731-A	NP-F330 BATTERY PACK (PD100)
	A-7093-732-A	NP-F330 BATTERY PACK (PD100P)
	A-7094-002-A	PC CARD ADAPTOR (MSAC-PC1) (WITH CASE)
	A-7094-044-A	XLR BLOCK ASSY
	X-3948-941-1	CAP ASSY, LENS
	X-3949-154-1	HOOD ASSY, LENS

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

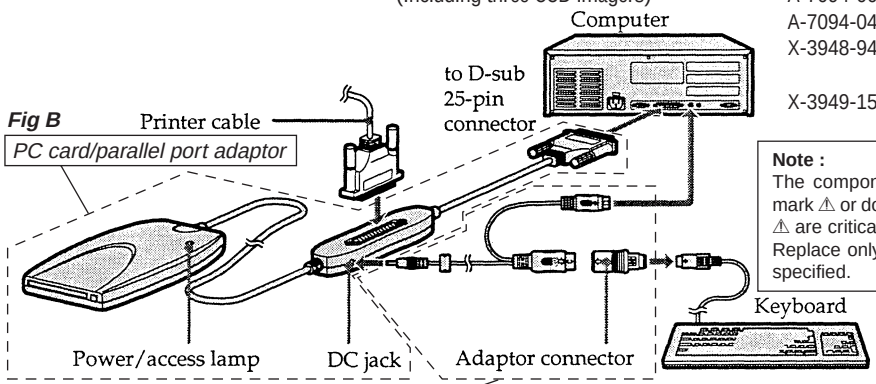


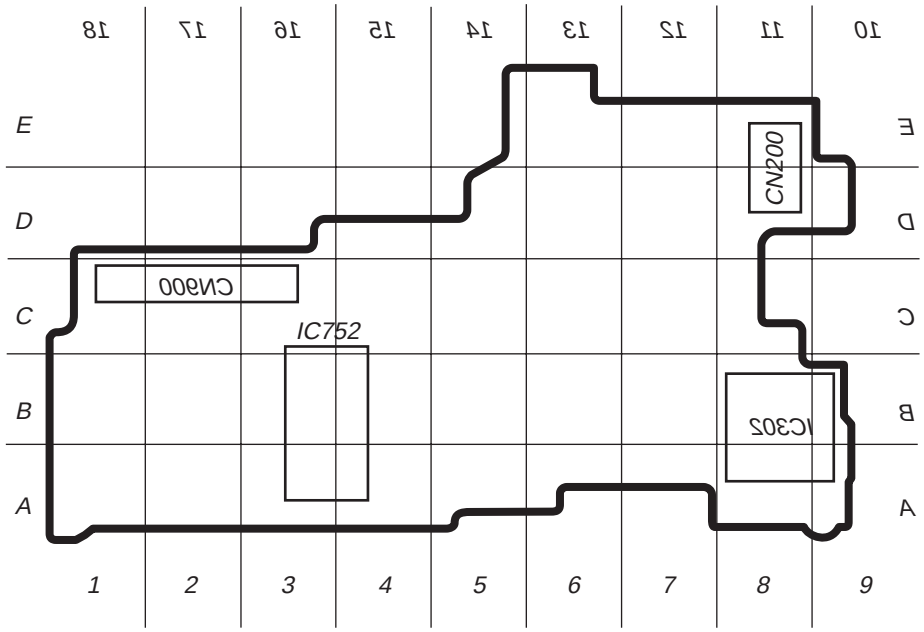
Fig B *PC card/parallel port adaptor*

Fig A *Power cord (With adaptor connector)*

⟨PARTS REFERENCE SHEET⟩

You can find the parts position of location of mount locations applying to VC-208 board of a set.

VC-208 DSR-PD100/PD100P SIDE A

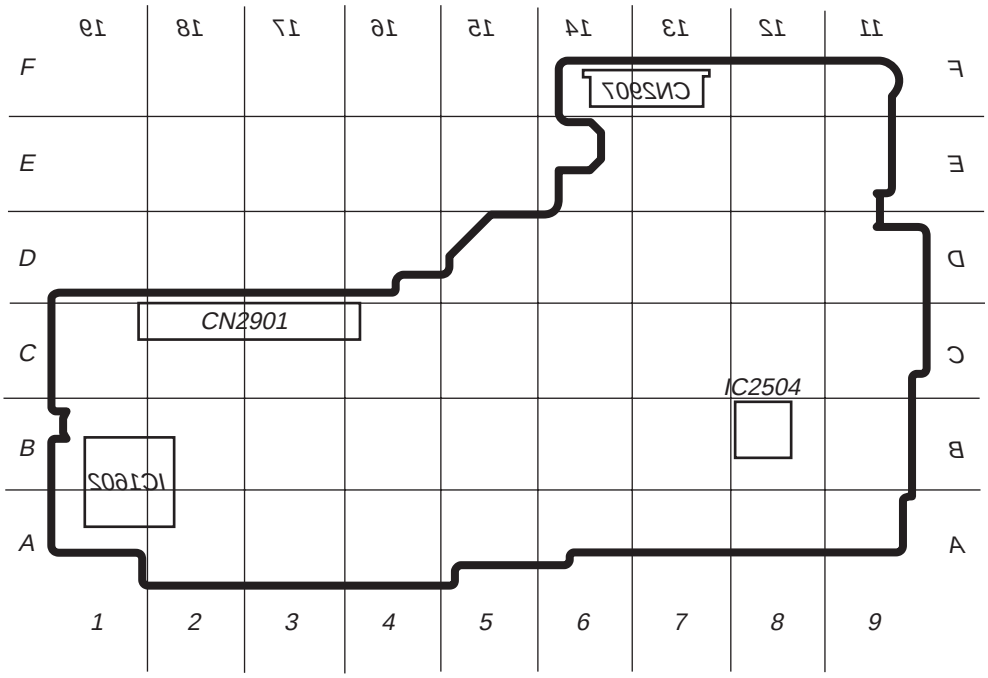


SIDE B DSR-PD100/PD100P **VC-208**

⟨PARTS REFERENCE SHEET⟩

You can find the parts position of location of mount locations applying to VI-151 board of a set.

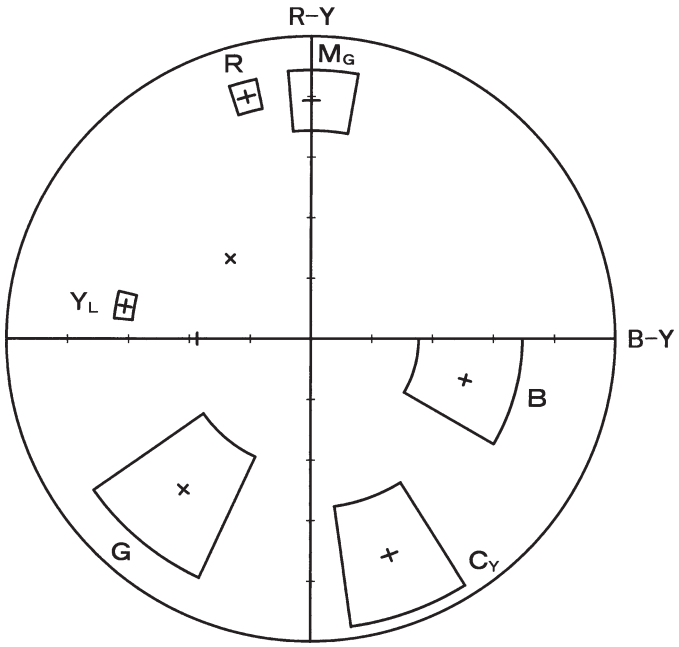
VI-151 DSR-PD100/PD100P SIDE A



SIDE B DSR-PD100/PD100P **VI-151**

〈FOR CAMERA COLOR REPRODUCTION ADJUSTMENT〉

Take a copy of CAMERA COLOR REPRODUCTION FRAME and Parts referencesheets with a clear sheet for use.



9-974-114-11

Sony EMCS Co.

2003E1600-1
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DSR-PD100/PD100P

RMT-811

SONY

SERVICE MANUAL

US Model
Canadian Model
DSR-PD100
AEP Model
DSR-PD100P

1999. 04

SUPPLEMENT-1

File this supplement-1 with the Service Manual.
(EVB00374, EVB00850, EVB01385)

- The video head (SLD) circuit should be deleted from the schematic diagram. ..... (page 1)
- Several parts are added and changed. ..... (pages 2 to 4)
- The DC IN circuit is separated from the VI-151 board. A new independent printed wiring board PS-422 is newly added solely for the DC IN board. ..... (pages 5 to 18)

Applicable serial Nos.

Models	Serial Nos.
DSR-PD100	1000701 and higher
DSR-PD100P	undecided

- Part number change of IC1602 on the VI-151 board.
  IC1602 : CXD3200R-T6 → SN104266PN-TEB
  ..... (pages 19 and 20)
- Addition of MF ring assy ..... (page 21)

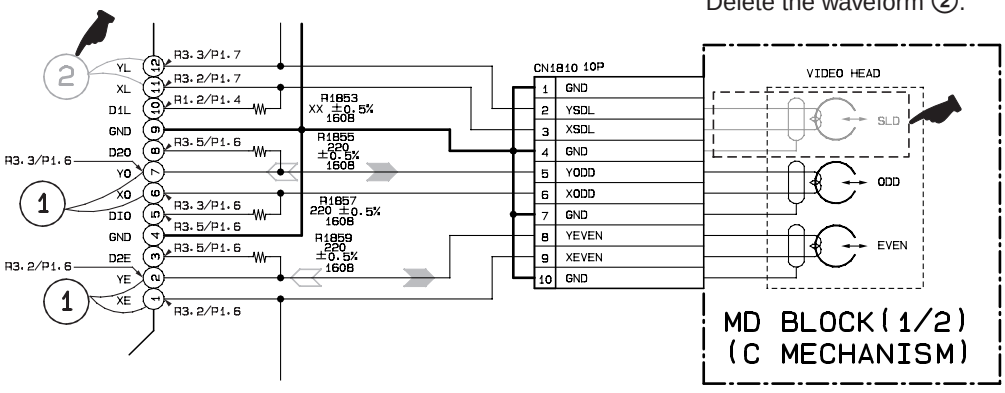
- Add and correct your service manual.

☛ : Deleted portion.

[Page: 4-52]

VI-151 BOARD (1/10) SCHEMATIC DIAGRAM

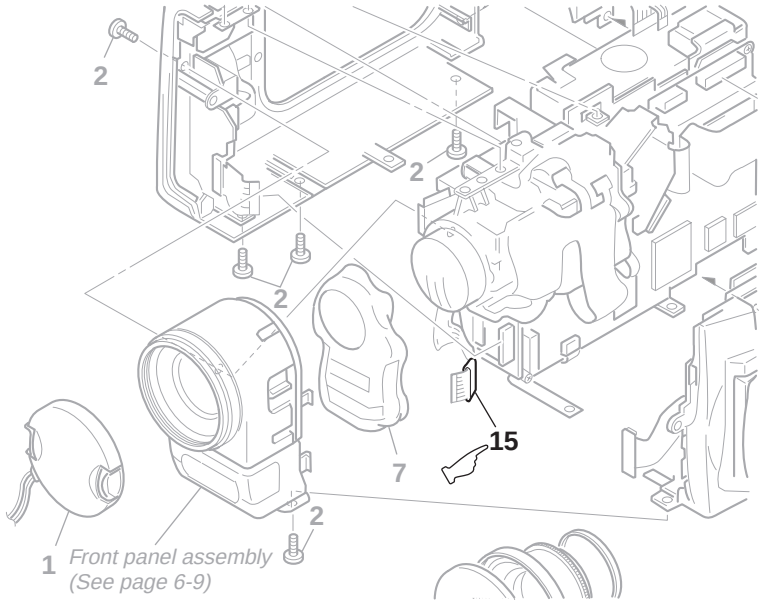
Delete the waveform ②.



: Added portion. : Chenged portion. : Deleted portion.

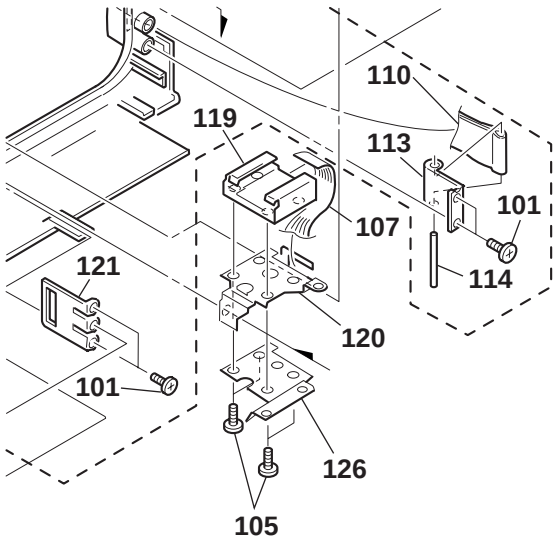
[Page: 6-1]

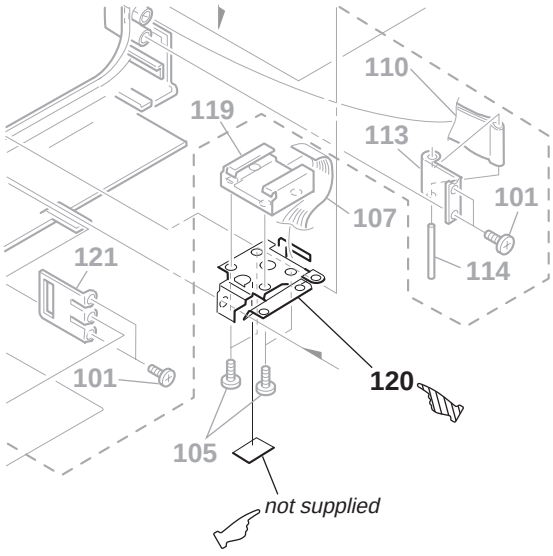
6-1-1. OVERALL SECTION



Ref. No.	Part No.	Description	Remarks
15	1-469-391-11	CORE, FERRITE	

Old	New
[Page: 6-3]	
6-1-3. CABINET (L) SECTION	**6-1-3. CABINET (L) SECTION**





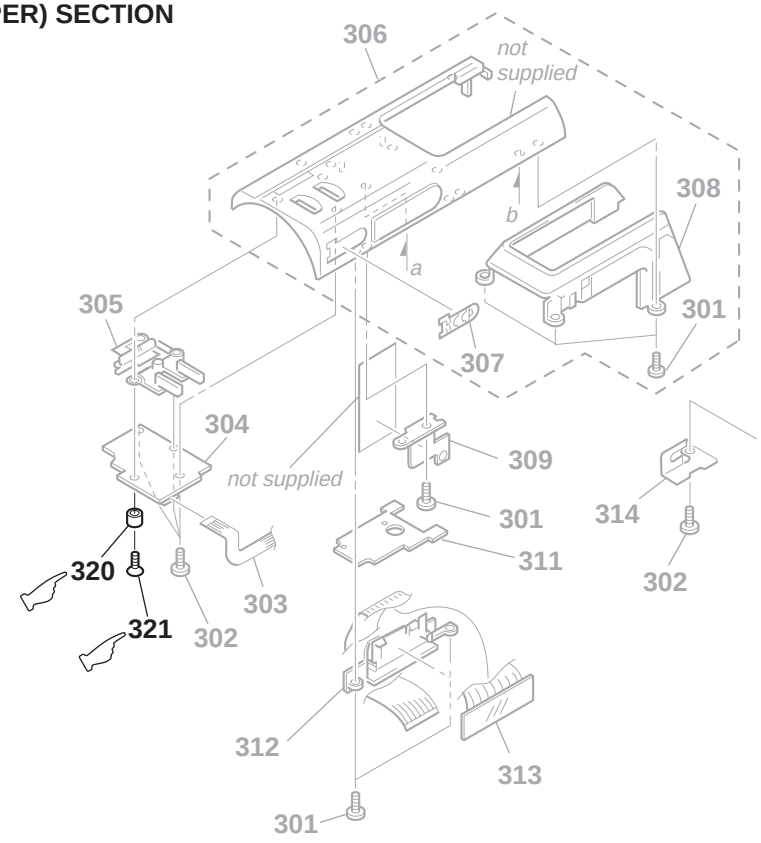
Ref. No.	Part No.	Description	Remarks
120	3-051-903-01	RETAINER, SHOE	
126	3-053-541-01	REINFORCEMENT, SHOE	

Ref. No.	Part No.	Description	Remarks
* 120	3-055-501-01	RETAINER, SHOE (HSD)	
126	————		

☞ : Added portion.

[Page: 6-7]

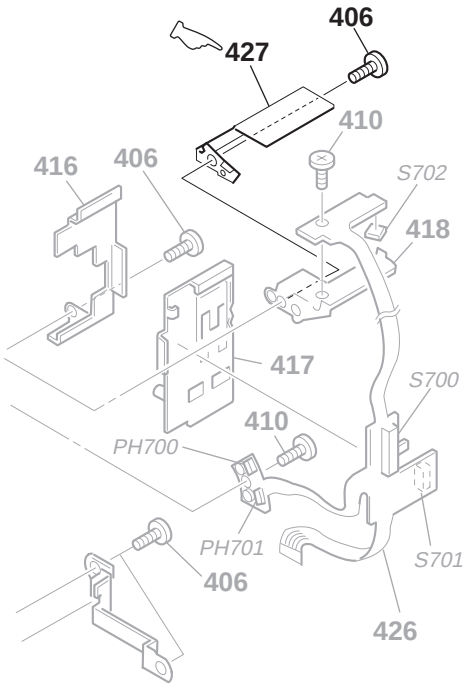
6-1-7. CABINET (UPPER) SECTION



Ref. No.	Part No.	Description	Remarks
* 320	3-054-047-01	SHAFT, F PANEL HOLD (ø4X1)	☞
321	3-724-437-01	SCREW (K2X4)	

[Page: 6-9]

6-1-9. FRONT PANEL SECTION

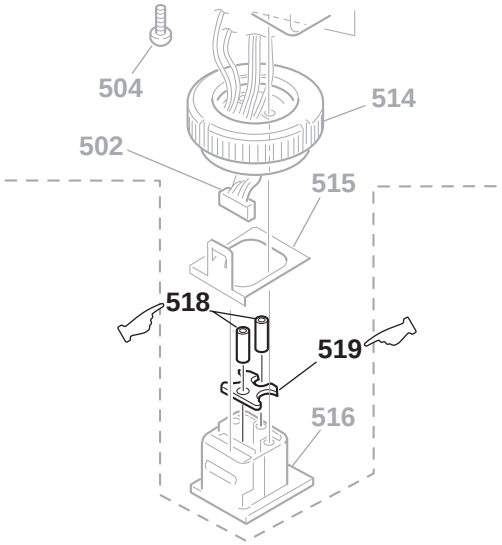


Ref. No.	Part No.	Description	Remarks
427	X-3949-421-1	HOLDER ASSY, F PANEL	☞

☞ : Added portion.

[Page: 6-11]

6-1-11. XLR BLOCK



Ref. No.	Part No.	Description	Remarks
518	3-054-320-01	SHAFT, FIXED	
519	3-054-321-01	SPACER, PLUG	

Page	Old	New
6-36E		ACCESSORIES ********** ⚠ 1-775-843-21 CORD, POWER (WITH FILTER)(3PIN) (PD100P) 1-790-524-11 CORD, CONNECTION (DV) (WITH CLAMP FILTER) (2M) (PD100P)

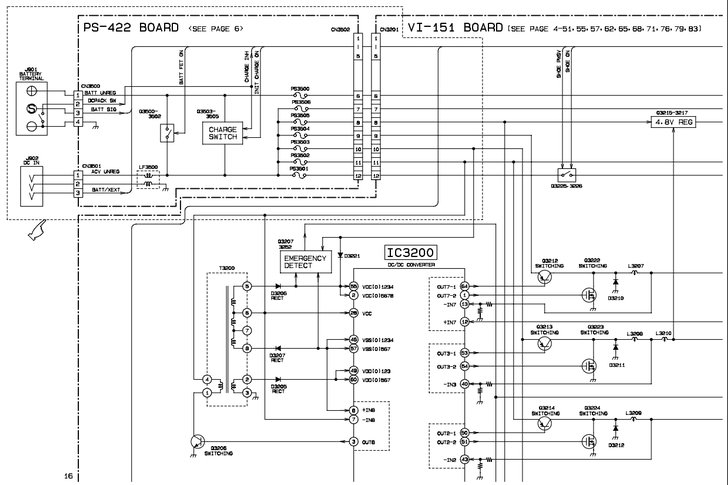
Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note :** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

< > : Page No. shown in < > indicates the page to refer on this Supplement-1.
[ ] : Page No. shown in [ ] indicates the page to refer on the original Service Manual DSR-PD100/PD100P.

: Added portion.

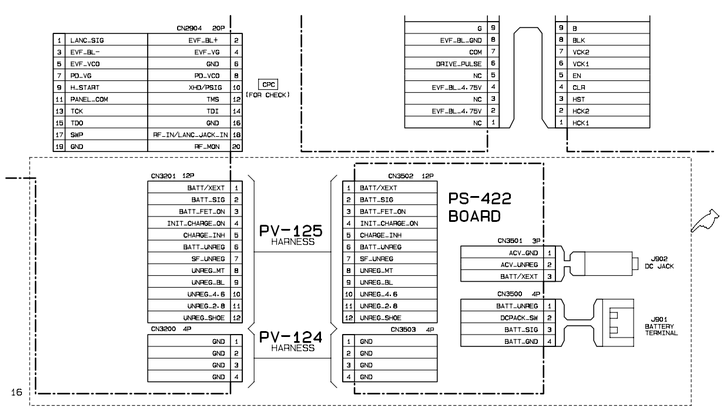
[Page: 3-5]

3-2. POWER BLOCK DIAGRAM



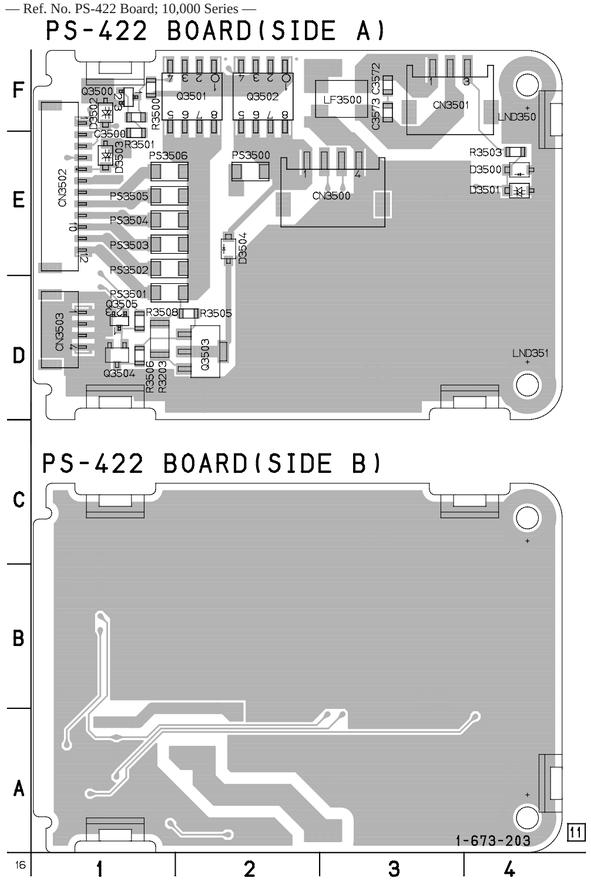
[Page: 4-7]

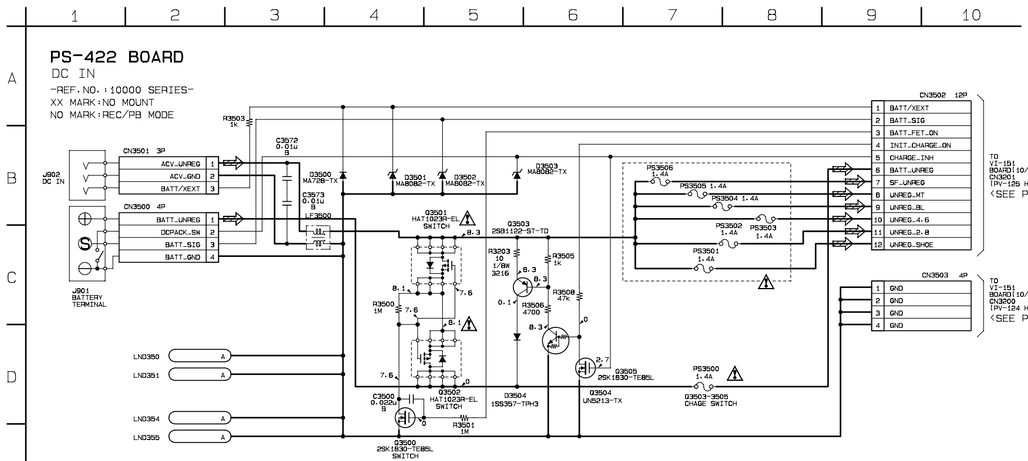
FRAME SCHEMATIC DIAGRAM-2



PS-422 (DC IN) PRINTED WIRING BOARD

— Ref. No. PS-422 Board; 10,000 Series —

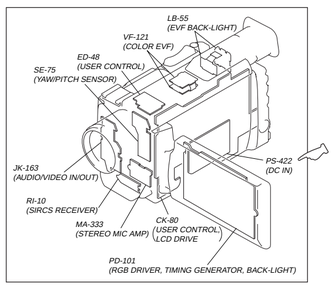




Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PS-422 BOARD

C3500	F-1	Q3500	F-1
C3572	F-3	Q3501	F-2
C3573	F-3	Q3502	F-2
		Q3503	D-2
CN3500	E-3	Q3504	D-1
CN3501	F-3	Q3505	D-1
CN3502	E-1		
CN3503	D-1	R3203	D-1
		R3500	F-1
D3500	E-4	R3501	E-1
D3501	E-4	R3503	E-4
D3502	F-1	R3505	D-2
D3503	E-1	R3506	D-1
D3504	E-2	R3508	D-1
LF3500	F-3		
PS3500	E-2		
PS3501	D-1		
PS3502	E-1		
PS3503	E-1		
PS3504	E-1		
PS3505	E-1		
PS3506	E-1		



[ ] : Page No. shown in [ ] indicates the page to refer on the original Service Manual DSR-PD100/PD100P.

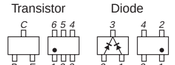
[Page: 4-90]

PRINTED WIRING BOARD

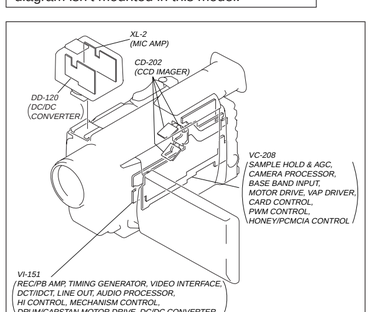
For printed wiring boards

- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

Transistor Diode



There are few cases that the part printed on this diagram isn't mounted in this model.

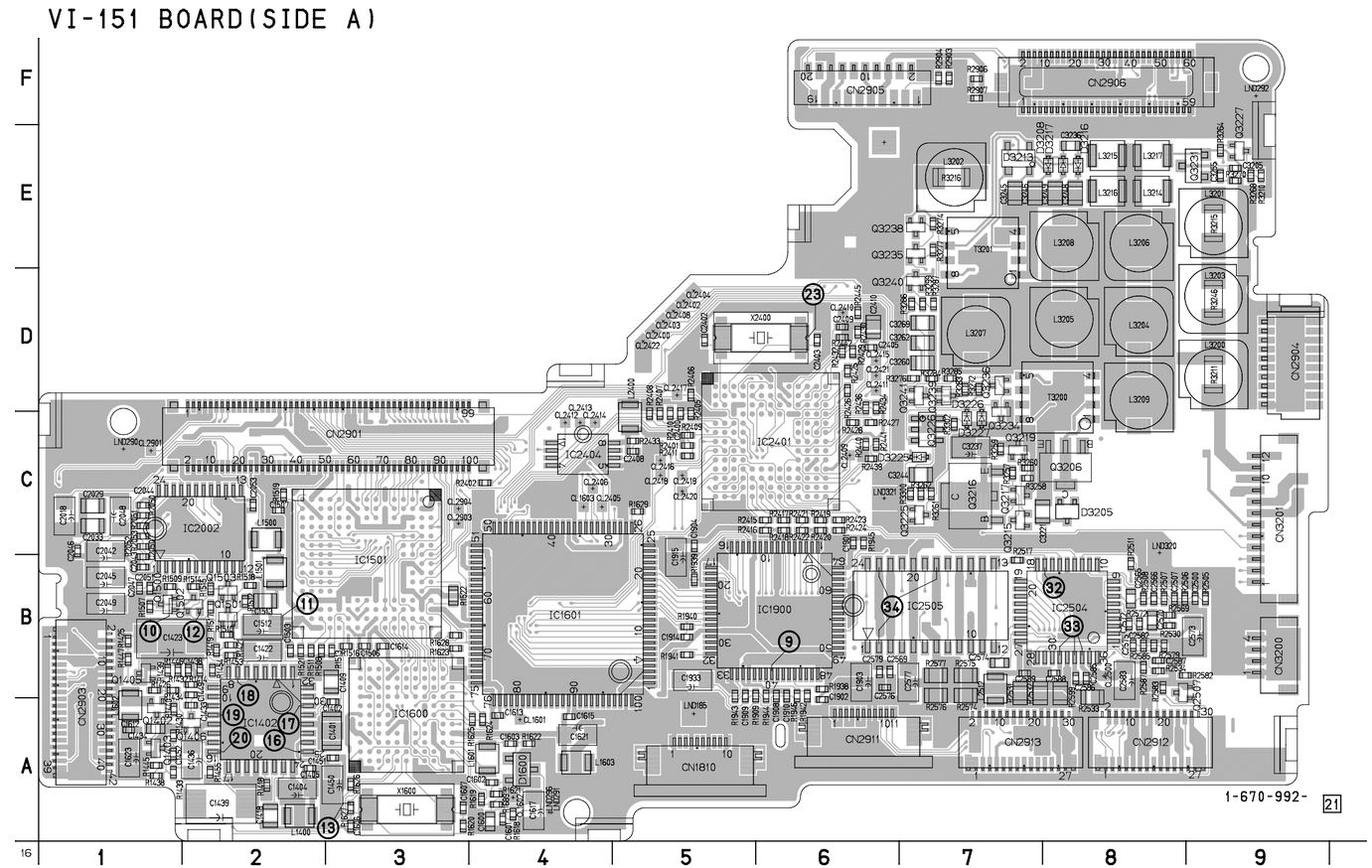


VI-151 BOARD (SIDE A)

C1401	A-3	C3205	E-9	Q3227	E-9	R2421	C-6
C1402	A-3	C3221	C-7	Q3231	E-9	R2422	C-6
C1404	A-2	C3236	E-8	Q3234	C-7	R2423	C-6
C1405	A-2	C3237	C-7	Q3235	E-7	R2424	C-6
C1409	B-3	C3244	C-7	Q3236	D-7	R2425	D-6
C1418	A-2	C3245	E-7	Q3238	E-7	R2426	D-6
C1422	B-2	C3246	E-7	Q3239	D-7	R2427	C-6
C1423	B-1	C3248	E-8	Q3240	D-7	R2428	C-6
C1433	A-2	C3249	E-8	Q3241	D-7	R2429	D-6
C1434	A-1	C3255	E-9			R2430	D-6
C1436	A-2	C3260	D-7	R1414	B-2	R2432	D-6
C1438	B-2	C3262	D-7	R1418	A-2	R2433	C-5
C1439	A-2	C3269	D-7	R1419	B-2	R2434	D-6
C1449	B-2			R1421	B-2	R2436	D-6
C1450	A-3	CN1810	A-5	R1425	B-1	R2439	C-6
C1451	A-3	CN2901	C-2	R1426	B-1	R2440	C-6
C1452	A-1	CN2903	A-1	R1430	A-1	R2441	C-6
C1503	B-2	CN2904	D-9	R1432	B-2	R2442	D-6
C1506	B-3	CN2905	F-6	R1433	A-1	R2445	D-6
C1507	C-2	CN2906	F-8	R1434	B-1	R2505	B-9
C1512	B-2	CN2911	A-6	R1438	A-1	R2506	B-8
C1513	B-2	CN2912	A-8	R1439	B-1	R2507	B-8
C1600	A-4	CN2913	A-7	R1440	A-1	R2508	B-8
C1601	A-4	CN3200	B-9	R1445	A-1	R2511	B-8
C1602	A-4	CN3201	C-9	R1446	B-1	R2517	B-7
C1603	A-4			R1447	B-1	R2530	B-8
C1606	A-3	D1600	A-4	R1453	B-2	R2531	A-7
C1607	A-3	D3205	C-8	R1454	B-2	R2532	A-7
C1612	A-1	D3208	E-7	R1455	A-2	R2533	A-8
C1613	A-4	D3213	E-7	R1507	B-1	R2534	B-8
C1614	B-3	D3216	E-8	R1508	B-2	R2569	B-8
C1615	A-4	D3217	E-8	R1509	B-1	R2572	B-8
C1617	A-4	D3225	C-7	R1510	B-2	R2574	A-7
C1621	A-4	D3226	C-7	R1511	B-2	R2575	B-7
C1623	A-1	D3227	C-7	R1512	B-2	R2576	A-7
C1901	C-6			R1513	B-3	R2577	B-7
C1902	A-6	IC1402	A-2	R1514	B-2	R2579	B-8
C1903	B-6	IC1501	B-3	R1515	B-2	R2582	B-8
C1904	C-5	IC1600	A-3	R1516	B-3	R2583	B-8
C1908	A-6	IC1601	B-4	R1517	B-2	R2585	B-8
C1909	A-5	IC1900	B-6	R1518	B-2	R2587	B-8
C1910	A-6	IC2002	C-2	R1519	C-2	R2599	A-8
C1914	B-5	IC2401	C-6	R1521	B-2	R2903	F-7
C1915	B-5	IC2404	C-4	R1522	B-3	R2904	F-7
C1933	B-5	IC2504	B-8	R1618	A-4	R2906	F-7
C2018	C-1	IC2505	B-7	R1619	A-4	R2907	F-7
C2029	C-1			R1620	A-3	R3210	E-9
C2033	C-1	L1400	A-2	R1621	A-4	R3211	D-9
C2042	C-1	L1500	C-2	R1622	A-4	R3215	E-9
C2043	B-1	L1501	B-2	R1623	B-3	R3216	E-7
C2044	C-1	L1601	A-4	R1624	A-4	R3246	D-9
C2045	B-1	L1602	A-1	R1625	A-4	R3257	C-7
C2046	C-1	L1603	A-4	R1626	A-3	R3258	C-7
C2047	B-1	L2400	C-5	R1627	A-3	R3259	C-7
C2048	C-1	L2512	B-7	R1628	B-3	R3260	C-7
C2049	B-1	L3203	D-9	R1629	C-5	R3261	C-7
C2050	B-1	L3201	E-9	R1689	A-4	R3262	C-7
C2051	B-1	L3202	E-7	R1909	A-5	R3264	E-9
C2053	C-2	L3203	D-9	R1938	B-6	R3268	E-9
C2400	C-5	L3204	D-8	R1939	B-5	R3270	E-9
C2402	D-5	L3205	D-8	R1940	B-5	R3272	D-7
C2403	D-6	L3206	E-8	R1941	B-5	R3274	E-7
C2405	D-6	L3207	D-7	R1942	A-6	R3276	D-7
C2408	C-5	L3208	E-8	R1943	A-5	R3277	E-7
C2409	D-6	L3209	D-8	R1944	A-6	R3283	D-7
C2410	D-6	L3214	E-8	R1945	C-6	R3284	D-7
C2500	B-9	L3215	E-8	R1946	A-6	R3285	D-7
C2507	B-8	L3216	E-8	R2050	C-1	R3286	D-7
C2565	B-8	L3217	E-8	R2051	C-1	R3287	D-7
C2566	B-8			R2052	C-1	R3299	D-7
C2569	B-6	Q1402	A-1	R2053	C-1	R3300	C-7
C2570	B-8	Q1403	A-1	R2401	C-5	R3302	C-7
C2572	B-8	Q1405	B-1	R2402	C-4		
C2573	B-9	Q1406	A-2	R2405	C-5	T3200	D-8
C2574	B-7	Q1500	B-1	R2406	D-5	T3201	E-7
C2575	B-8	Q1501	B-2	R2407	C-5		
C2576	B-6	Q1502	B-2	R2408	C-5	X1600	A-3
C2577	B-7	Q1503	B-2	R2409	C-5	X2400	D-6
C2579	B-6	Q2507	B-8	R2410	C-5		
C2582	B-8	Q3206	C-8	R2411	C-5		
C2583	B-8	Q3215	C-7	R2415	C-6		
C2585	B-8	Q3216	C-7	R2416	C-6		
C2586	B-8	Q3217	C-7	R2417	C-6		
C2587	B-8	Q3219	C-7	R2418	C-6		
C2588	B-8	Q3225	C-7	R2419	C-6		
C2589	B-7	Q3226	C-7	R2420	C-6		

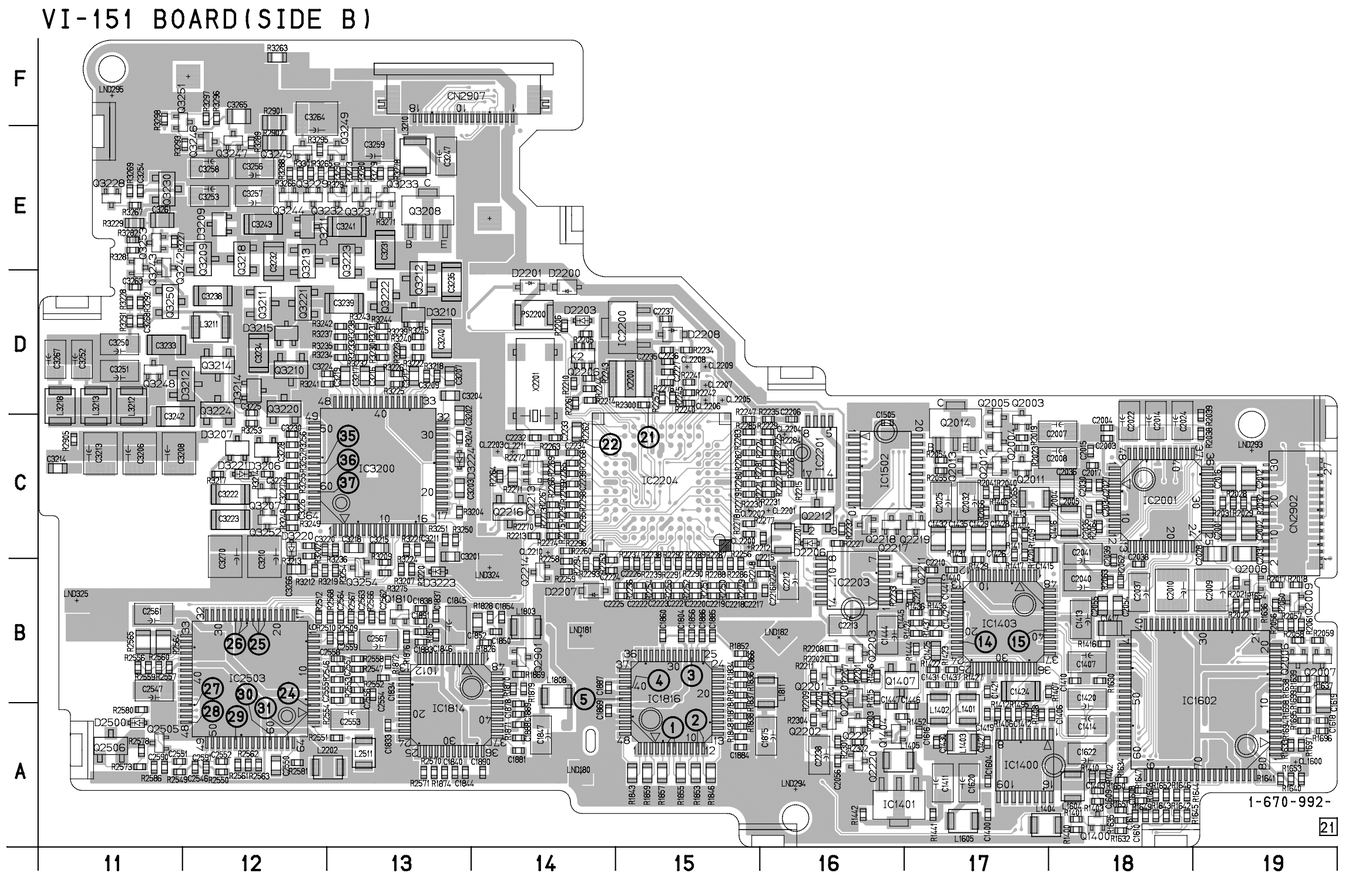
VI-151 (REC/PB AMP, TIMING GENERATOR, VIDEO INTERFACE, DCT/IDCT, IR TRANSMITTER, AUDIO PROCESSOR, HI CONTROL, MECHANISM CONTROL, DRUM/CAPSTAN MOTOR DRIVE, DC/DC CONVERTER) PRINTED WIRING BOARD

— Ref. No. VI-151 Board; 10,000 Series —



VI-151 (REC/PB AMP, TIMING GENERATOR, VIDEO INTERFACE, DCT/IDCT, IR TRANSMITTER, AUDIO PROCESSOR, HI CONTROL, MECHANISM CONTROL, DRUM/CAPSTAN MOTOR DRIVE, DC/DC CONVERTER) PRINTED WIRING BOARD

— Ref. No. VI-151 Board; 10,000 Series —



VI-151 BOARD (SIDE B)

C1400	A-17	C2016	C-19	C3220	C-12	L1605	A-17	R1400	A-18	R1877	B-15	R2262	C-14	R3217	C-12
C1403	A-18	C2017	C-18	C3222	C-12	L1803	B-14	R1401	A-18	R1878	A-15	R2263	C-14	R3218	D-13
C1406	A-18	C2022	C-18	C3223	C-12	L1808	B-14	R1402	A-18	R1879	B-14	R2264	C-14	R3219	B-12
C1407	B-18	C2024	C-18	C3224	D-13	L1811	B-16	R1403	A-18	R2017	B-19	R2265	C-14	R3220	B-13
C1410	B-18	C2025	C-17	C3225	D-12	L2004	C-17	R1404	C-17	R2018	B-19	R2266	C-14	R3221	C-13
C1411	A-17	C2027	C-18	C3226	C-12	L2005	C-18	R1405	C-17	R2019	C-17	R2267	C-14	R3222	D-13
C1412	A-17	C2028	C-19	C3227	C-12	L2201	C-16	R1406	A-17	R2021	B-19	R2268	C-14	R3223	D-13
C1413	B-18	C2030	C-18	C3228	C-12	L2202	A-13	R1407	B-18	R2022	B-19	R2269	C-14	R3224	C-13
C1414	A-18	C2031	C-19	C3229	C-12	L2511	A-13	R1408	A-17	R2023	C-17	R2270	C-14	R3225	D-13
C1415	C-17	C2032	C-17	C3230	C-12	L3210	E-13	R1409	C-17	R2028	C-19	R2271	C-14	R3226	D-13
C1416	C-17	C2034	C-18	C3231	E-13	L3211	D-12	R1410	A-18	R2029	C-19	R2272	C-14	R3227	E-11
C1417	B-18	C2035	C-18	C3232	E-12	L3212	D-11	R1411	C-17	R2031	C-19	R2273	C-14	R3228	D-11
C1419	A-17	C2036	C-18	C3233	D-11	L3213	D-11	R1412	A-17	R2032	C-19	R2274	C-14	R3229	E-11
C1420	B-18	C2037	B-18	C3234	D-12	L3218	D-11	R1413	C-17	R2038	C-19	R2275	C-14	R3230	D-13
C1421	B-17	C2038	B-18	C3235	D-13			R1415	B-16	R2039	C-19	R2276	D-15	R3231	D-13
C1424	B-17	C2039	B-18	C3238	D-12	PS2200	D-14	R1416	B-18	R2040	C-17	R2277	C-15	R3232	D-13
C1425	B-17	C2040	B-18	C3239	D-13			R1417	C-17	R2041	C-17	R2278	C-15	R3233	D-13
C1426	B-17	C2041	C-18	C3240	D-13	Q1400	A-18	R1420	C-17	R2054	C-17	R2279	C-15	R3234	D-13
C1427	A-17	C2054	B-18	C3241	E-13	Q1404	A-16	R1422	B-17	R2055	C-17	R2280	C-15	R3235	D-13
C1428	C-17	C2055	B-18	C3242	C-11	Q1407	B-16	R1423	B-17	R2056	B-19	R2281	C-15	R3236	C-13
C1429	C-17	C2056	A-16	C3243	E-12	Q1810	B-13	R1424	B-17	R2057	B-19	R2282	C-15	R3237	D-13
C1430	A-17	C2206	C-16	C3247	E-13	Q2003	C-17	R1427	B-17	R2058	B-19	R2283	C-15	R3238	D-13
C1431	B-17	C2210	B-17	C3250	D-11	Q2004	C-17	R1429	B-17	R2059	B-19	R2284	C-16	R3239	D-13
C1432	C-17	C2211	B-17	C3251	D-11	Q2005	C-17	R1431	B-17	R2060	B-19	R2285	C-15	R3240	D-13
C1435	C-17	C2212	B-16	C3252	D-11	Q2006	B-19	R1435	B-17	R2061	B-19	R2286	B-15	R3241	D-13
C1437	B-17	C2213	B-16	C3253	E-12	Q2007	B-19	R1436	B-17	R2062	B-18	R2287	B-15	R3242	D-13
C1440	B-17	C2215	B-16	C3254	E-11	Q2008	B-19	R1437	B-17	R2063	B-18	R2288	B-15	R3243	D-13
C1441	B-17	C2216	B-16	C3256	E-12	Q2009	B-19	R1441	A-17	R2064	C-18	R2289	B-15	R3244	D-13
C1442	B-17	C2217	B-15	C3257	E-12	Q2011	C-17	R1442	A-16	R2065	C-17	R2290	B-15	R3245	D-13
C1444	B-16	C2218	B-15	C3258	E-12	Q2012	C-17	R1444	B-17	R2066	C-17	R2291	B-15	R3247	C-13
C1445	B-17	C2219	B-15	C3259	E-13	Q2013	C-17	R1452	A-16	R2201	B-16	R2292	B-15	R3248	C-12
C1446	A-17	C2220	B-15	C3261	E-11	Q2014	C-17	R1456	B-16	R2202	B-16	R2293	B-14	R3249	C-12
C1447	A-16	C2221	B-15	C3263	D-11	Q2200	B-16	R1495	A-17	R2203	B-16	R2294	B-14	R3250	C-13
C1505	C-16	C2222	B-15	C3264	F-12	Q2201	B-16	R1630	B-18	R2204	B-16	R2295	C-14	R3251	C-13
C1604	A-17	C2223	B-15	C3265	F-12	Q2202	A-16	R1632	A-18	R2205	D-14	R2296	C-14	R3252	C-12
C1608	A-18	C2224	B-14	C3266	B-12	Q2203	B-16	R1633	A-19	R2206	D-14	R2297	C-14	R3253	C-12
C1609	A-18	C2225	B-15	C3267	D-11	Q2206	D-14	R1634	A-18	R2207	B-16	R2298	C-14	R3254	B-13
C1610	A-18	C2226	B-15	C3268	D-11	Q2211	B-17	R1635	A-18	R2208	B-16	R2299	C-14	R3255	C-12
C1611	A-18	C2227	D-15	C3270	C-12	Q2212	C-16	R1636	B-19	R2209	B-16	R2300	D-15	R3256	C-12
C1616	A-17	C2232	C-14			Q2213	C-14	R1637	B-19	R2210	D-14	R2301	A-16	R3263	F-12
C1618	A-19	C2233	C-14	CN2902	C-19	Q2214	B-14	R1638	B-19	R2211	B-16	R2302	A-16	R3265	E-12
C1619	A-19	C2234	C-14	CN2907	F-13	Q2216	C-14	R1639	B-19	R2212	C-16	R2303	A-16	R3266	E-12
C1620	A-17	C2235	D-15			Q2217	C-16	R1640	A-19	R2213	C-14	R2304	A-16	R3267	E-11
C1622	A-18	C2236	D-15	D2200	D-14	Q2218	C-16	R1641	A-19	R2214	D-14	R2509	B-13	R3269	E-11
C1804	B-15	C2237	D-15	D2201	D-14	Q2219	C-17	R1642	A-18	R2215	C-16	R2510	B-13	R3271	E-13
C1833	A-13	C2238	A-16	D2203	D-14	Q2220	A-16	R1643	A-18	R2221	C-16	R2512	B-12	R3273	E-13
C1834	B-13	C2239	C-14	D2206	C-16	Q2221	A-16	R1644	A-18	R2222	C-16	R2546	B-13	R3275	E-13
C1837	B-13	C2546	A-12	D2207	B-14	Q2505	A-11	R1645	A-18	R2223	C-16	R2547	B-13	R3278	E-13
C1838	B-13	C2547	B-11	D2208	D-15	Q2506	A-11	R1646	A-18	R2224	C-16	R2549	A-11	R3279	E-13
C1840	A-13	C2550	A-12	D2500	A-11	Q2901	B-14	R1647	A-18	R2225	C-16	R2550	A-12	R3280	E-13
C1844	A-13	C2551	A-11	D3206	C-12	Q3207	C-12	R1648	A-18	R2226	C-16	R2551	A-13	R3281	E-11
C1845	B-13	C2552	A-12	D3207	C-12	Q3208	E-13	R1649	A-18	R2227	C-16	R2552	B-13	R3282	E-11
C1846	B-13	C2553	A-13	D3209	E-12	Q3209	E-12	R1650	A-18	R2229	C-16	R2553	B-13	R3288	E-12
C1847	A-14	C2554	B-13	D3210	D-13	Q3210	D-12	R1651	A-18	R2230	C-15	R2554	B-13	R3289	E-12
C1850	B-14	C2555	B-13	D3211	E-12	Q3211	D-12	R1652	A-18	R2231	C-16	R2556	B-11	R3290	E-13
C1852	B-14	C2556	B-13	D3212	D-12	Q3212	D-13	R1653	A-19	R2232	C-16	R2557	B-11	R3291	D-11
C1854	B-14	C2557	B-13	D3214	D-12	Q3213	E-12	R1654	B-19	R2233	B-16	R2558	B-13	R3292	D-11
C1856	B-15	C2558	B-13	D3215	D-12	Q3214	D-12	R1694	A-19	R2234	D-15	R2559	B-11	R3293	E-12
C1860	B-15	C2559	B-13	D3220	C-12	Q3218	E-12	R1695	A-19	R2235	C-16	R2560	B-11	R3294	E-13
C1866	B-15	C2561	B-11	D3221	C-12	Q3220	D-12	R1696	A-19	R2236	B-15	R2561	A-12	R3295	E-12
C1869	A-14	C2562	B-13	D3223	B-13	Q3221	D-12	R1697	A-19	R2237	B-15	R2562	A-12	R3296	F-12
C1875	A-16	C2563	B-13	D3224	C-13	Q3222	D-13	R1698	A-19	R2238	B-15	R2563	A-12	R3297	F-12
C1878	A-14	C2564	B-13			Q3223	E-13	R1699	B-19	R2239	B-15	R2564	B-11	R3298	F-11
C1881	A-14	C2567	B-13	IC1400	A-17	Q3224	D-12	R1826	B-14	R2240	D-15	R2565	B-11	R3301	E-12
C1883	A-13	C2590	A-11	IC1401	A-16	Q3228	E-11	R1828	B-14	R2241	D-15	R2566	B-13		
C1884	A-15	C2591	A-12	IC1403	B-17	Q3229	E-12	R1834	B-15	R2242	D-15	R2567	B-13	X2200	D-15
C1885	B-15	C3201	C-13	IC1502	C-16	Q3230	E-11	R1836	B-15	R2243	D-14	R2568	B-13	X2201	D-14
C1886	B-15	C3202	C-13	IC1602	B-19	Q3232	E-13	R1837	A-15	R2244	D-14	R2570	A-13		
C1887	B-14	C3203	C-13	IC1814	A-13	Q3233	E-13	R1838	A-15	R2245	D-15	R2571	A-13		
C1888	A-14	C3204	D-13	IC1816	B-15	Q3237	E-13	R1843	A-15	R2246	B-16	R2573	A-11		
C1889	A-14	C3206	C-11	IC2001	C-18	Q3242	E-11	R1846	A-15	R2247	C-15	R2578	A-11		
C1890	A-14	C3207	D-13	IC2200	D-15	Q3243	E-11	R1848	A-15	R2248	B-15	R2580	A-11		
C1891	B-13	C3208	C-11	IC2201	C-16	Q3244	E-12	R1852	B-15	R2249	B-15	R2581	A-12		
C2001	C-19	C3209	D-13	IC2203	B-16	Q3245	E-12	R1853	A-15	R2250	B-15	R2586	A-11		
C2002	C-19	C3210	C-12	IC2204	C-15	Q3246	E-12	R1855	A-15	R2251	B-15	R2901	F-12		
C2003	C-18	C3211	C-13	IC2503	B-12	Q3247	E-12	R1857	A-15	R2252	B-15	R2902	E-12		
C2004	C-18	C3212	D-13	IC3200	C-13	Q3248	D-11	R1859	A-15	R2253	B-14	R2905	C-11		
C2007	C-18	C3213	C-11			Q3249	E-13	R1869	B-14	R2254	B-15	R3202	C-12		
C2008	C-18	C3214	C-11	L1401	A-17	Q3250	D-11	R1870	B-14	R2255	B-15	R3204	C-13		
C2009	B-19	C3215	C-13	L1402	A-17	Q3251	F-11	R1871	A-14	R2257	D-15	R3207	B-13		
C2010	B-18	C3216	D-13	L1403	A-17	Q3252	C-12	R1872	B-13	R2258	B-14	R3209	B-13		
C2012	C-19	C3217	D-13	L1404	A-17	Q3253	E-11	R1874	A-13	R2259	B-14	R3212	B-12		
C2014	C-18	C3218	C-13	L1405	A-16	Q3254	B-13	R1875	B-13	R2260	C-14	R3213	C-12		
C2015	C-18	C3219	D-13	L1604	A-18			R1876	B-13	R2261	D-14	R3214	C-12		

: Changed portion.

< > : Page No. shown in < > indicates the page to refer on this Supplement-1.
[ ] : Page No. shown in [ ] indicates the page to refer on the original Service Manual DSR-PD100/PD100P.

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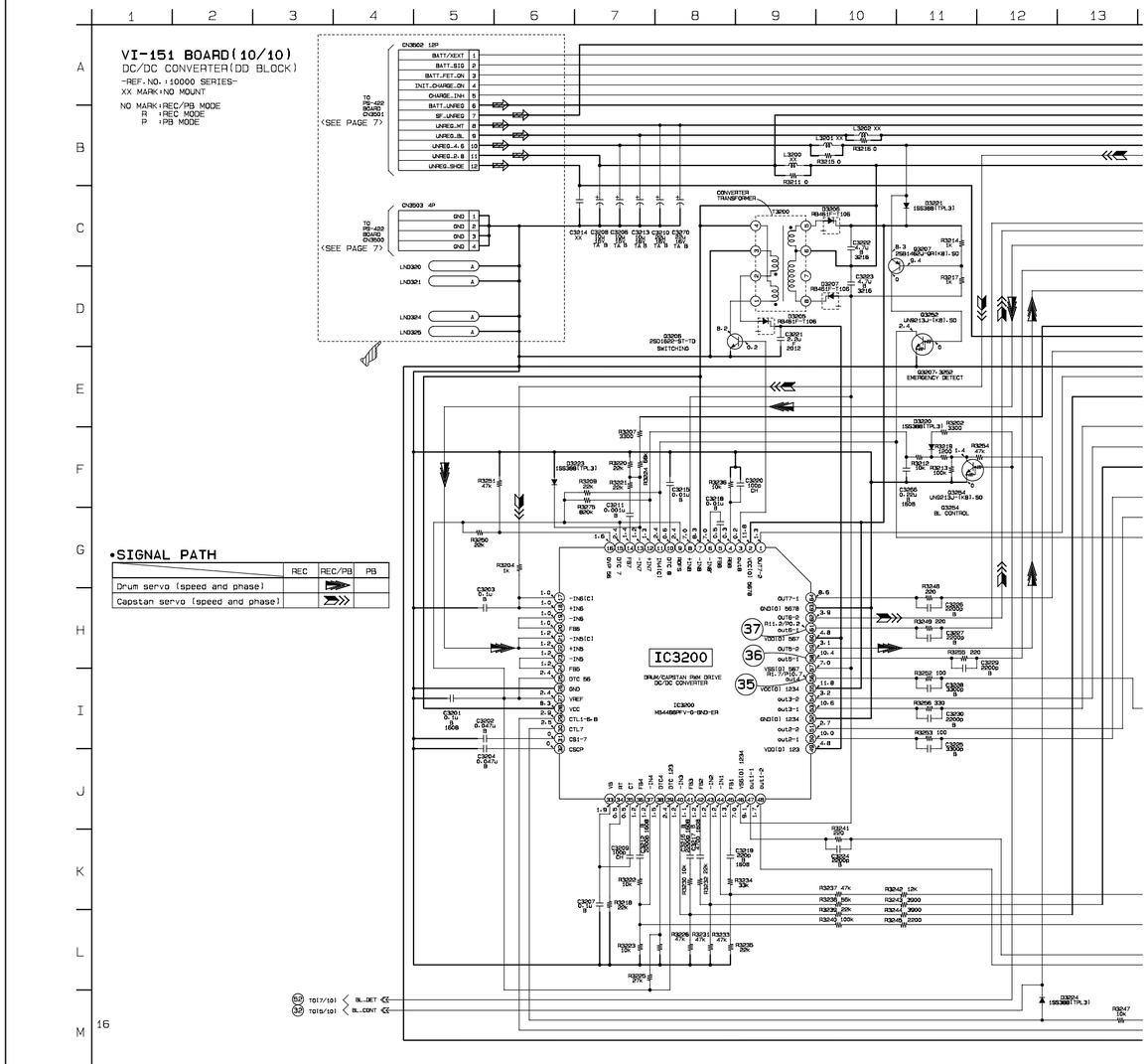
SCHEMATIC DIAGRAM



: Added portion. : Changed portion.

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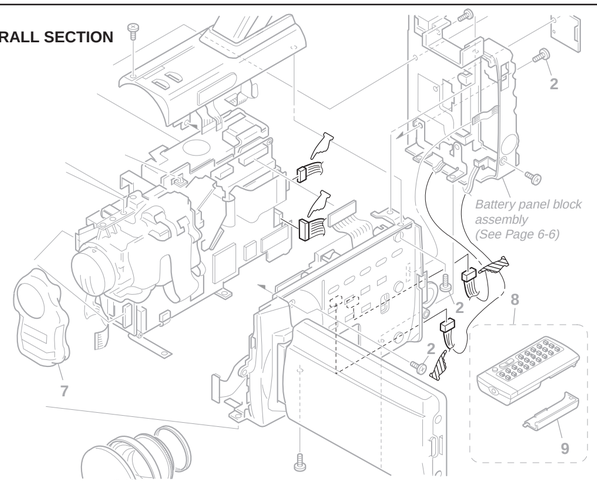
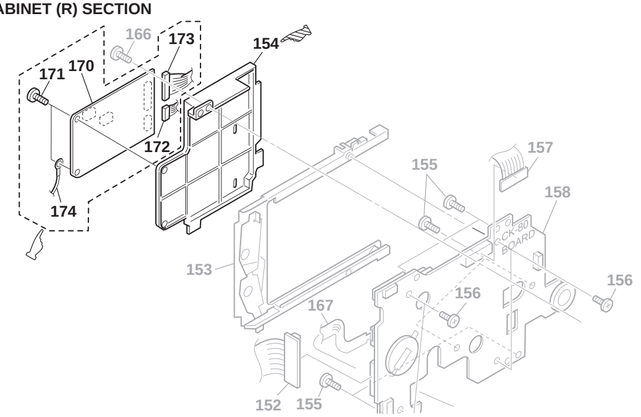
6-1-1. OVERALL SECTION



[Page: 6-4]

6-1-4. CABINET (R) SECTION

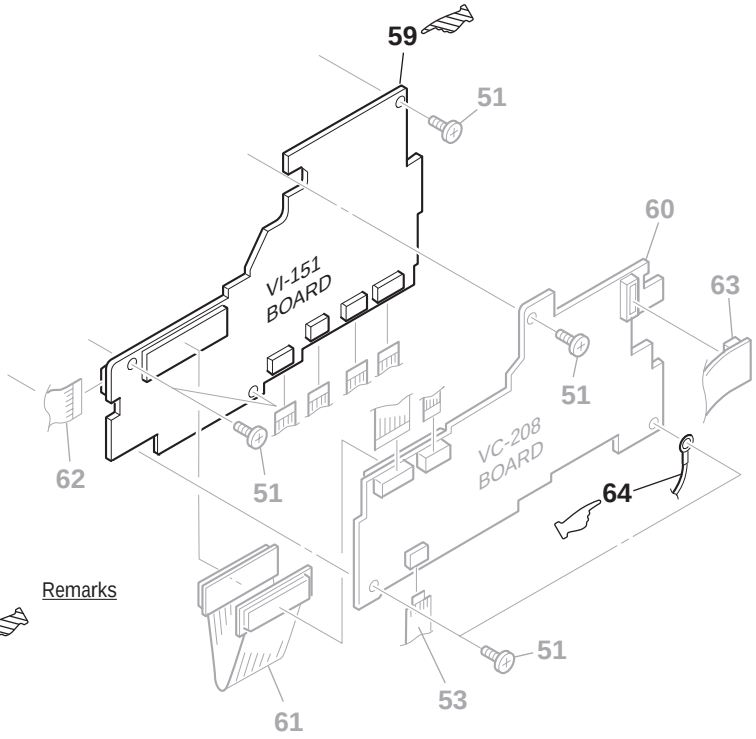


Old				New			
Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
* 154	3-051-918-01	COVER, PM		* 154	3-054-552-01	COVER 2, PM	
				170	A-7074-018-A	PS-422 BOARD, MOUNT	
				171	3-713-791-71	SCREW (M1.7X4), TAPPING	
				172	1-959-867-11	HARNESS (PV-124) 4PIN	
				173	1-959-868-11	HARNESS (PV-125) 12PIN	
				174	1-959-893-11	HARNESS (PV-127) 1PIN (PD100)	

: Added portion.

[Page: 6-2]

6-1-2. MECHANISM FRAME SECTION



Ref. No.	Part No.	Description	Remarks
59	A-7094-065-B	VI-151(D) BOARD, COMPLETE	
64	1-959-893-11	HARNESS (PV-127) (PD100)	

6-2. ELECTRICAL PARTS LIST

: Chenged portion. : Deleted portion.

Page	Old						New			
	Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description	Remarks
6-27		A-7094-065-A	VI-151(D) BOARD, COMPLETE (PD100)					A-7094-065-B	VI-151(D) BOARD, COMPLETE	
		A-7094-121-A	VI-151(D) BOARD, COMPLETE (PD100P)						**********	
			**********							(Ref.No.:10,000 Series)
			(Ref.No.:10,000 Series)							
6-29	C3200	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V				
	CN3200	1-580-057-11	PIN, CONNECTOR 4P				CN3200	1-778-507-21	PIN, CONNECTOR 4P	
	CN3201	1-691-550-11	PIN, CONNECTOR (1.5MM)(SMD) 3P				CN3201	1-779-064-11	PIN, CONNECTOR 12P	
	D3200	8-719-421-27	DIODE	MA728-TX						
	D3201	8-719-420-14	DIODE	MA8082-TX						
	D3202	8-719-420-14	DIODE	MA8082-TX						
	D3203	8-719-420-14	DIODE	MA8082-TX						
	D3204	8-719-056-48	DIODE	1SS388(TPL3)						
6-30	LF3200	1-411-957-11	FILTER, COMMON MODE							
	⚠ PS3200	1-533-760-21	FUSE (SMD) 1.4A							
	⚠ PS3201	1-533-760-21	FUSE (SMD) 1.4A							
	⚠ PS3202	1-533-760-21	FUSE (SMD) 1.4A							
	⚠ PS3203	1-533-760-21	FUSE (SMD) 1.4A							
	⚠ PS3204	1-533-760-21	FUSE (SMD) 1.4A							
	⚠ PS3205	1-533-760-21	FUSE (SMD) 1.4A							
	⚠ PS3206	1-533-760-21	FUSE (SMD) 1.4A							
6-31	Q3200	8-729-024-48	TRANSISTOR	2SK1830-TE85L						
	⚠ Q3201	8-729-036-43	TRANSISTOR	HAT1023R-EL						
	⚠ Q3202	8-729-036-43	TRANSISTOR	HAT1023R-EL						
	Q3203	8-729-804-41	TRANSISTOR	2SB1122-ST-TD						
	Q3204	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO						
	Q3205	8-729-024-48	TRANSISTOR	2SK1830-TE85L						
6-34	R3200	1-218-989-11	RES,CHIP	1M	5%	1/16W				
	R3201	1-218-989-11	RES,CHIP	1M	5%	1/16W				
	R3203	1-216-150-91	RES,CHIP	10	5%	1/8W				
	R3205	1-218-953-11	RES,CHIP	1K	5%	1/16W				
	R3206	1-218-961-11	RES,CHIP	4.7K	5%	1/16W				
	R3208	1-218-973-11	RES,CHIP	47K	5%	1/16W				
6-35	R3303	1-218-953-11	RES,CHIP	1K	5%	1/16W				

Added portion

New

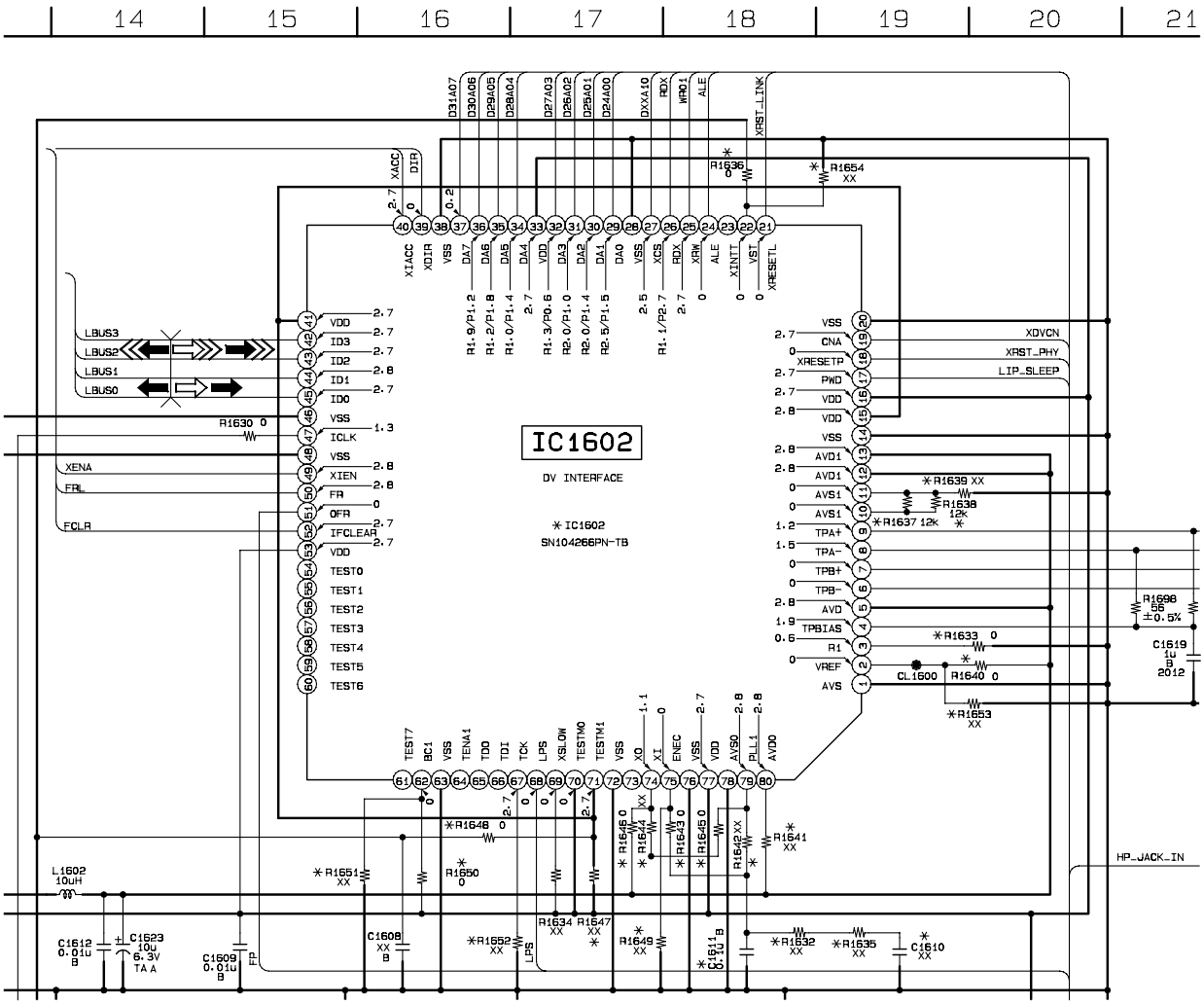
Ref. No.	Part No.	Description	Remarks
	A-7074-018-A	PS-422 BOARD, COMPLETE	
		**********	
		(Ref.No.:10,000Series)	
		< CAPACITOR >	
C3500	1-164-227-11	CERAMIC CHIP 0.022uF 10% 16V	
C3572	1-162-970-11	CERAMIC CHIP 0.01uF 10% 16V	
C3573	1-162-970-11	CERAMIC CHIP 0.01uF 10% 16V	
		< CONNECTOR >	
CN3500	1-580-057-11	PIN, CONNECTOR 4P	
CN3501	1-580-056-21	PIN, CONNECTOR 3P	
CN3502	1-779-064-11	PIN, CONNECTOR 12P	
CN3503	1-778-507-21	PIN, CONNECTOR 4P	
		< DIODE >	
D3500	8-719-421-27	DIODE MA728	
D3501	8-719-073-03	DIODE MA8082	
D3502	8-719-073-03	DIODE MA8082	
D3503	8-719-073-03	DIODE MA8082	
D3504	8-719-027-76	DIODE 1SS357-TPH3	
		< LINE FILTER >	
LF3500	1-411-957-11	FILTER, COMMON MODE	
		< FUSE >	
⚠PS3500	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3501	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3502	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3503	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3504	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3505	1-533-760-21	FUSE (SMD) 1.4A	
⚠PS3506	1-533-760-21	FUSE (SMD) 1.4A	

Ref. No.	Part No.	Description	Remarks
		< TRANSISTOR >	
Q3500	8-729-024-48	TRANSISTOR 2SK1830-TE85L	
Q3501	8-729-036-43	TRANSISTOR HAT1023R-EL	
Q3502	8-729-036-43	TRANSISTOR HAT1023R-EL	
Q3503	8-729-804-41	TRANSISTOR 2SB1122-S	
Q3504	8-729-402-42	TRANSISTOR UN5213	
Q3505	8-729-024-48	TRANSISTOR 2SK1830-TE85L	
		< RESISTOR >	
R3203	1-216-150-00	RES,CHIP 10 5% 1/16W	
R3500	1-216-857-11	RES,CHIP 1M 5% 1/16W	
R3501	1-216-857-11	RES,CHIP 1M 5% 1/16W	
R3503	1-216-821-11	RES,CHIP 1K 5% 1/16W	
R3505	1-216-821-11	RES,CHIP 1K 5% 1/16W	
R3506	1-216-829-11	RES,CHIP 4.7K 5% 1/16W	
R3508	1-216-841-11	RES,CHIP 47K 5% 1/16W	

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

: Added portion. , * : Chenged portion. : Deleted portion.

Page	Old	New
4-63	**VI-151 BOARD (4/10)** 	

6-27

Ref. No.	Part No.	Description			Remarks
C1610	1-164-933-11	CERAMIC CHIP	220PF	10%	16V
C1611	1-164-858-11	CERAMIC CHIP	22PF	5%	16V

Ref. No.	Part No.	Description			Remarks
C1610	————				
C1611	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

6-30

IC1602	8-752-392-25	IC CXD3200R-T6	

IC1602	8-759-566-52	IC SN104266PN-TEB	

6-32

R1632	1-218-849-11	RES,CHIP	1.2K	0.50%	1/16W
R1633	1-208-703-11	RES,CHIP	6.8K	0.50%	1/16W
R1635	1-218-849-11	RES,CHIP	1.2K	0.50%	1/16W
R1638	1-218-990-11	SHORT	0		
R1639	1-218-990-11	SHORT	0		
R1641	1-218-990-11	SHORT	0		
R1642	1-218-990-11	SHORT	0		
R1644	1-218-990-11	SHORT	0		
R1647	1-218-990-11	SHORT	0		
R1649	1-218-990-11	SHORT	0		
R1651	1-218-990-11	SHORT	0		
R1652	1-218-990-11	SHORT	0		
R1653	1-218-990-11	SHORT	0		
R1654	1-218-990-11	SHORT	0		

R1632	————				
R1633	1-218-990-11	SHORT	0		
R1635	————				
R1636	1-218-990-11	SHORT	0		
R1638	1-208-913-11	RES,CHIP	12K	5%	1/16W
R1639	————				
R1640	1-218-990-11	SHORT	0		
R1641	————				
R1642	————				
R1643	1-218-990-11	SHORT	0		
R1644	————				
R1645	1-218-990-11	SHORT	0		
R1646	1-218-990-11	SHORT	0		
R1647	————				
R1648	1-218-990-11	SHORT	0		
R1649	————				
R1650	1-218-990-11	SHORT	0		
R1651	————				
R1652	————				
R1653	————				
R1654	————				

<table>
<tr><th>Page</th><th>New</th></tr>
<tr><td>5-52</td><td>

3. C Page Table

<table>
<tr><th rowspan="2">Address</th><th colspan="2">Initial value</th><th rowspan="2">Remark</th></tr>
<tr><th>NTSC</th><th>PAL</th></tr>
<tr><td>AB</td><td colspan="3">Fixed data-1</td></tr>
<tr><td>AC</td><td colspan="3"></td></tr>
<tr><td>AD</td><td colspan="3">Fixed data-2
Data: IC1602 of VI-151 board
00: CXD3200R-T6
02: SN104266PN-TEB</td></tr>
<tr><td>AE</td><td colspan="3">Fixed data-1</td></tr>
<tr><td>AF</td><td colspan="3">(Initialized data)</td></tr>
</table>

</td></tr>
<tr><td>5-66</td><td>

3-5-2. BIST Check

1-4. IC1600(SFD) BIST(PB) Check

1) Select page: 0, address: 01, and set data: 01.
2) Select page: C, address: AC, set data: 21, and press the PAUSE button.
3) Select page: C, address: AD, and note down the data.
   When the data is “00”, change it to “01” and press the PAUSE button.
   When the data is “02”, change it to “03” and press the PAUSE button.
4) Select page: 3, address: 11, set data: 04, and press the PAUSE button.

12) Select page: C, address: AC, set data: 20, and press the PAUSE button.
13) Select page: C, address: AD, set the data noted down at step 3), and press the PAUSE button.
14) Select page: 0, address: 01, and set data: 00.

</td></tr>
<tr><td>5-68</td><td>

2-3. IC1600(SFD) BIST(REC) Check

1) Select page: 0, address: 01, and set data: 01.
2) Select page: C, address: AC, set data: 21, and press the PAUSE button.
3) Select page: C, address: AD, and note down the data.
   When the data is “00”, change it to “01” and press the PAUSE button.
   When the data is “02”, change it to “03” and press the PAUSE button.
4) Select page: 3, address: 11, set data: 04, and press the PAUSE button.

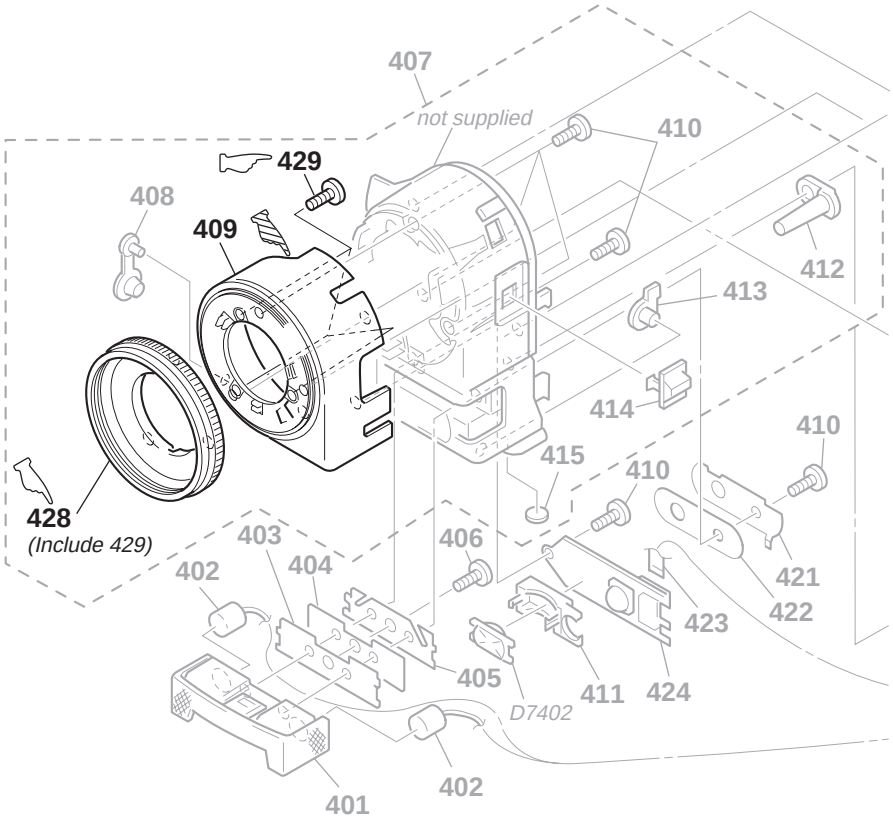
11) Select page: C, address: AC, set data: 20, and press the PAUSE button.
12) Select page: C, address: AD, set the data noted down at step 3), and press the PAUSE button.
13) Select page: 0, address: 01, and set data: 00.

</td></tr>
</table>

☞ : Added portion. ▨ : Changed portion.

[Page: 6-9]

6-1-9. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remarks
428	A-7094-506-A	RING ASSY, MF	☞
429	3-719-845-01	SCREW (B2X4), TAPPING	☞

9-974-114-81

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DSR-PD100/PD100P

RMT-811

SONY

US Model
Canadian Model
DSR-PD100
AEP Model
DSR-PD100P

SERVICE MANUAL

1999. 09

SUPPLEMENT-2

File this supplement-2 with the Service Manual.
(99-016)

Contents: Addition of Adjusting Procedure
3-7. AUDIO SYSTEM CHECK (WHEN SIGNAL IS INPUT USING XLR ADAPTOR)

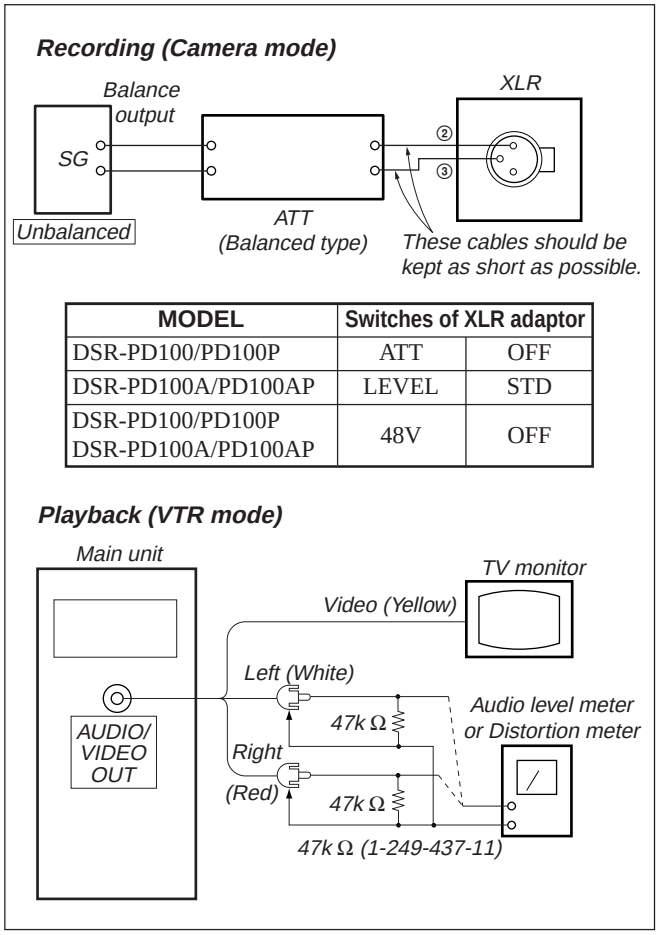
- The SERVICE MANUAL of the model DSR-PD100/PD100P that has already been published earlier, did not have the AUDIO SYSTEM CHECK for when the XLR adaptor is connected. This supplement describes the AUDIO SYSTEM CHECK procedure when signal is input using XLR adaptor.

[ ] : Page No. shown in [ ] indicates the page to refer on the original Service manual DSR-PD100/PD100P.

3-7. AUDIO SYSTEM CHECK (WHEN SIGNAL IS INPUT USING XLR ADAPTOR) [page 5-70]

[Connection of Audio System Measuring Devices]

Connect the audio system measuring devices as shown in Fig. 5-3-12, and perform the checks.



MODEL	Switches of XLR adaptor	
DSR-PD100/PD100P	ATT	OFF
DSR-PD100A/PD100AP	LEVEL	STD
DSR-PD100/PD100P DSR-PD100A/PD100AP	48V	OFF

Fig. 5-3-12

1. Overall Level Characteristics Check

Mode	Camera recording and playback
Signal	400 Hz, –60 dBs signal: XLR jack ② and ③ (balance input)
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack
Measuring Instrument	Audio level meter
Specified Value	–7.5 ± 5.0 dBs

Checking Method:

1) Input the 400 Hz, –60 dBs signal in the XLR jack.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the 400 Hz signal level is the specified value.

2. Overall Distortion Check

Mode	Camera recording and playback
Signal	400 Hz, –60 dBs signal: XLR jack ② and ③ (balance input)
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack
Measuring Instrument	Audio distortion meter
Specified Value	Below 0.5 % (200 Hz to 6 kHz BPF ON)

Checking Method:

1) Input the 400 Hz, –60 dBs signal in the XLR jack.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the distortion is the specified value.

3. Overall Noise Level Check

Mode	Camera recording and playback
Signal	No signal: Short pins-② and ③.
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack
Measuring Instrument	Audio level meter
Specified Value	Below –45 dBs (IHF-A filter ON, 20 kHz LPF ON)

Checking Method:

1) Short pins-② and ③.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the noise level is the specified value.

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DSR-PD100/PD100P

RMT-811

SONY

US Model
Canadian Model
DSR-PD100
AEP Model
DSR-PD100P

SERVICE MANUAL

2000. 10

CORRECTION-1

Correct your service manual as shown below.
(PV00-010)

• Deleting of adjustment Items.

5. ADJUSTMENTS

☛ : Deleted portion.

Page	INCORRECT	CORRECT
5-11	**2. IRIS & ND HALL Auto Adjustment** **Checking method:** 1) Select page: 0, address: 01, and set data: 01. 2) Select page: D, address: 11, set data: 02, and press the PAUSE button of the adjustment remote commander. 3) Select page: 6, address: 04, and set data: 03. 4) Select page: 6, address: 01, set data: 01, and press the PAUSE button. 5) Check the IRIS display data lies within the “88” to “8A” range. 6) Select page: 6, address: 01, set data: 03, and press the PAUSE button. 7) Check the IRIS display data lies within the “14” to “18” range. 8) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander. 9) Select page: 6, address: 1C, and set data: 02. 10) Check the ND display data lies within the “14” to “18” range. 11) Select page: 6, address: 1C, and set data: 03. 12) Check the ND display data lies within the “88” to “8A” range.	**2. IRIS & ND HALL Auto Adjustment** **Checking method:** 1) Select page: 0, address: 01, and set data: 01. 2) Select page: D, address: 11, set data: 02, and press the PAUSE button of the adjustment remote commander. 3) Select page: 6, address: 04, and set data: 03. 4) Select page: 6, address: 01, set data: 01, and press the PAUSE button. 5) Check the IRIS display data lies within the “88” to “8A” range. 6) Select page: 6, address: 01, set data: 03, and press the PAUSE button. 7) Check the IRIS display data lies within the “14” to “18” range.

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DSR-PD100/PD100P

RMT-811

SONY

US Model
Canadian Model
DSR-PD100
AEP Model
DSR-PD100P

SERVICE MANUAL

2001. 02

SUPPLEMENT-3

File this supplement-3 with the Service Manual.
(PV01-002)

Subject:
Change of EMG code (Emergency code)

SECTION 5. ADJUSTMENTS

4-3. SERVICE MODE

☞ : Added portion.

Page 5-74

Old

2-1. EMG Code (Emergency Code)

Codes corresponding to the errors which occur are written in addresses 38, 3C and 40. The type of error indicated by the code are shown in the following table.

Code	Emergency Type
00	No error
10	Loading motor emergency during loading
11	Loading motor emergency during unloading
22	T reel emergency during normal rotation
23	S reel emergency during normal rotation
24	T reel emergency (Short circuit between S reel terminal and T reel terminal)
30	FG emergency at the start up of the capstan
40	FG emergency at the start up of the drum
42	FG emergency during normal rotation of the drum

New

2-1. EMG Code (Emergency Code)

Codes corresponding to the errors which occur are written in addresses 38, 3C and 40. The type of error indicated by the code are shown in the following table.

Code	Emergency Type
00	No error
10	Loading motor emergency during loading
11	Loading motor emergency during unloading
20	T reel side tape slacking during loading/unloading
22	T reel emergency during normal rotation
23	S reel emergency during normal rotation
24	T reel emergency (Short circuit between S reel terminal and T reel terminal)
30	FG emergency at the start up of the capstan
40	FG emergency at the start up of the drum
42	FG emergency during normal rotation of the drum
50	T reel side tape slacking during loading/unloading

9-974-114-83

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Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	1998.09	Official Release	—	—
1.1	1999.04	Supplement-1	The video head (SLD) circuit should be deleted from the schematic diagram. Several parts are added and changed. The DC IN circuit is separated from the VI-151 board. A new independent printed wiring board PS-422 is newly added solely for the DC IN board. Part number change of IC1602 on the VI-151 board. Addition of MF ring assy	No
1.2	1999.09	Supplement-2	Addition of Adjusting Procedure 3-7. AUDIO SYSTEM CHECK (WHEN SIGNAL IS INPUT USING XLR ADAPTOR)	No
1.3	2000.10	Correction-1	Deleting of adjustment Items. S.M. correction: Page 5-11	Yes
1.4	2001.02	Supplement-3	Change of EMG code (Emergency code)	No
1.5	2003.05	Correction-2	• Change of schematic diagram • Addition of not supplied • Change of electrical parts list S.M. correction: Page 4-66, 6-14, 6-27	Yes